SPECIAL DOUBLE ISSUE

TOP-RATED CAR REPAIR SHOPS **P.100**

LOWER YOUR ENERGY BILLS RIGHT NOW **P. 48**

CREDIT CARDS WITH AMAZING PERKS **P.68**

MAY + JUNE 2024

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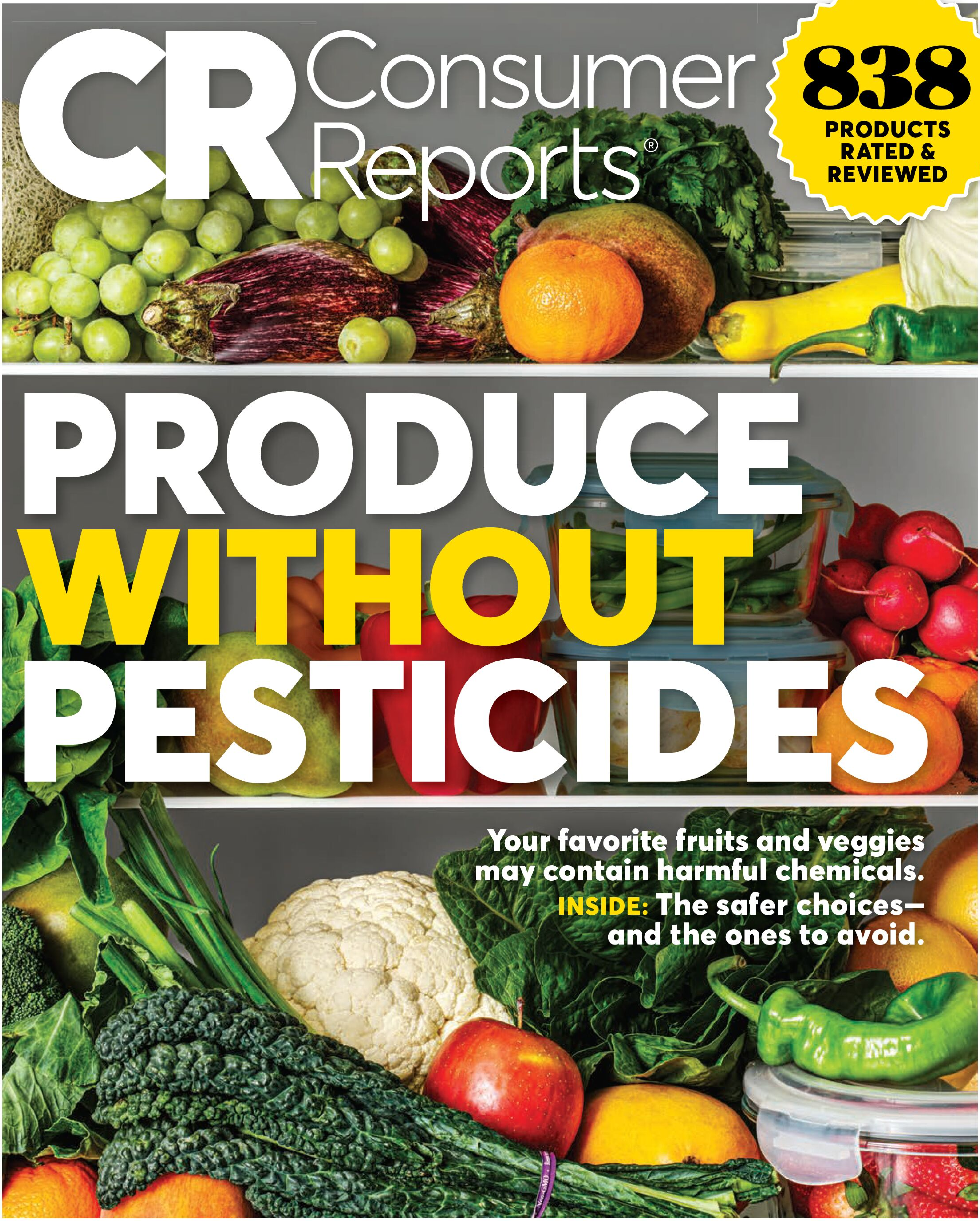

838 PRODUCTS RATED & REVIEWED

PRODUCE WITHOUT PESTICIDES

Your favorite fruits and veggies may contain harmful chemicals.

INSIDE: The safer choices—and the ones to avoid.

A Better (and Easier) Way to Buy a New Car

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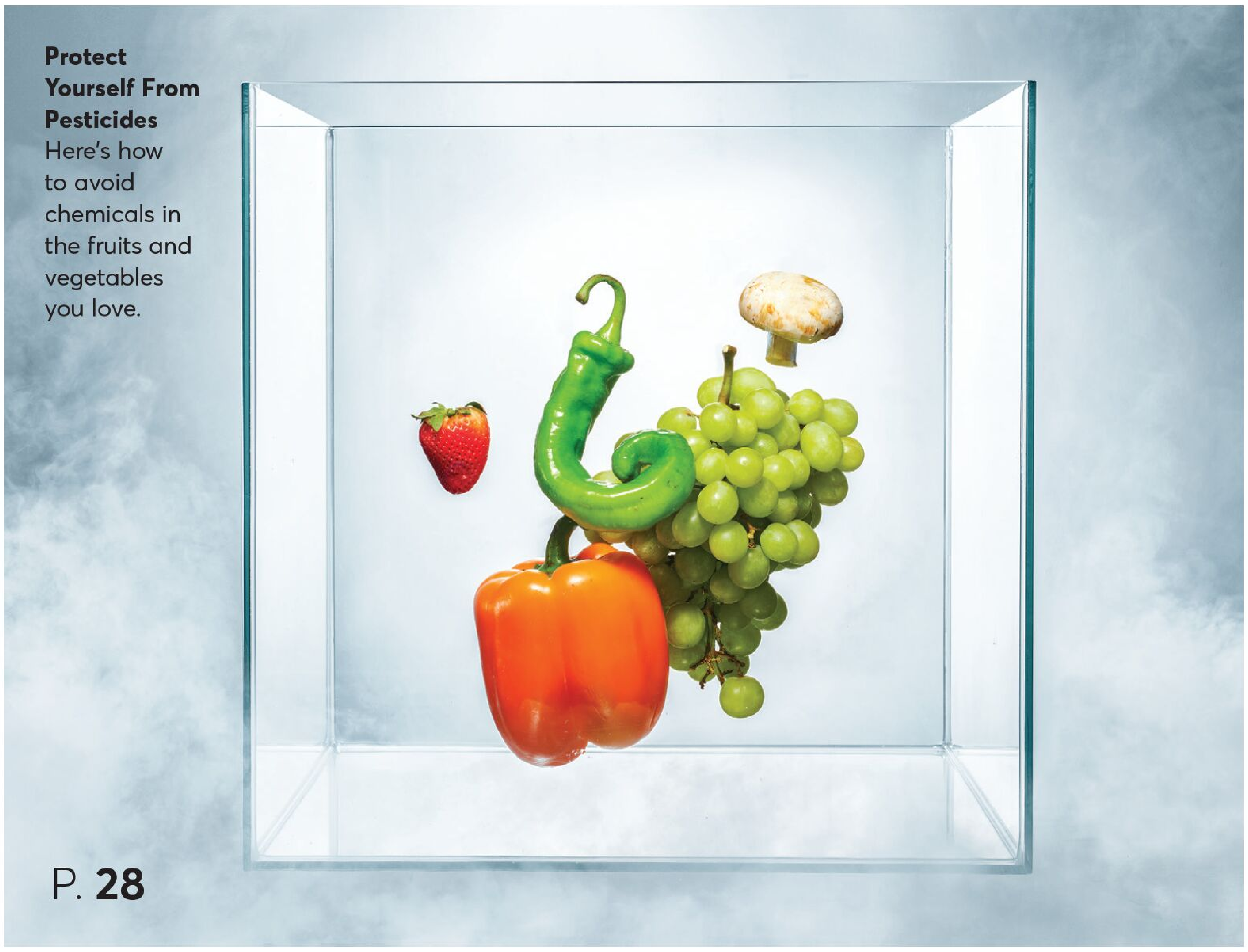

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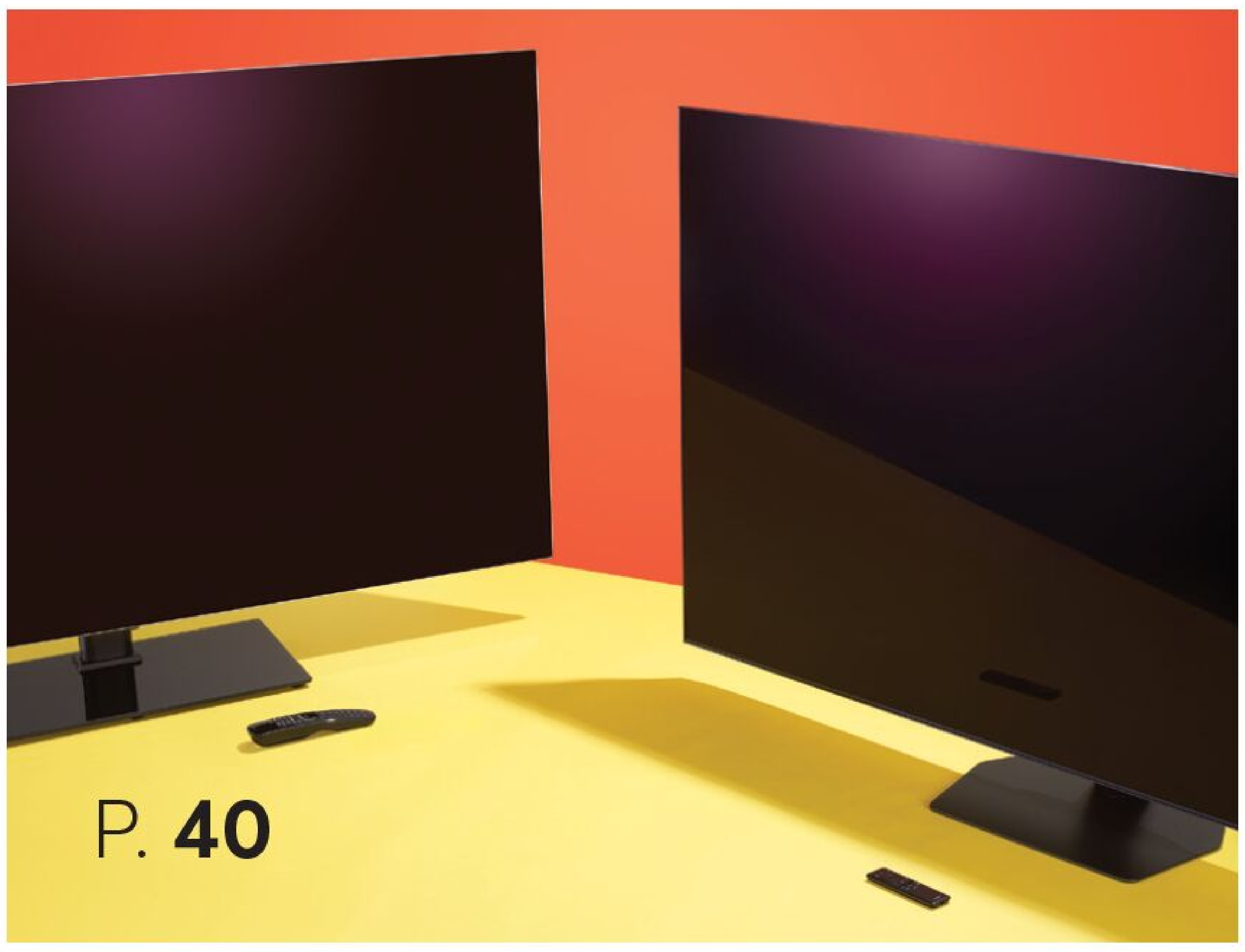

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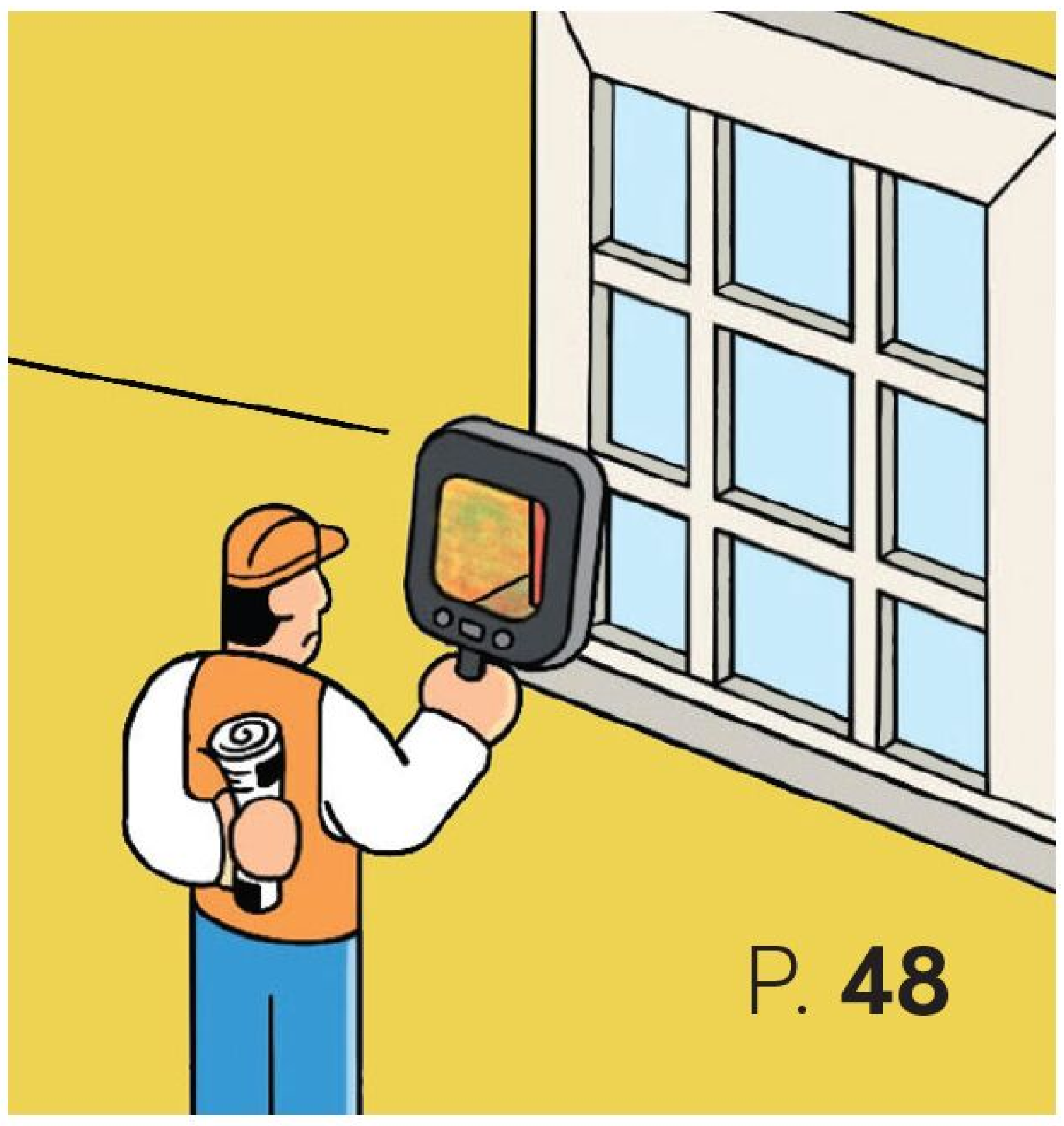

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PHOTO, COVER: PROP STYLING BY SOPHIA PAPPAS. PHOTO, THIS PAGE: TOYOTA (PRIUS)

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⏬ ⌄ ❙ ⌃ ⏫

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From the President

The Pesticides in Our Produce

PHOTO: VICTORIA WILL

FOR DECADES, consumer advocates have worked to improve the safety of our food, from making sure products list all ingredients on their labels to helping ban the use of toxic chemicals in agriculture. But potentially dangerous pesticides are still being found in our produce, which shows that our food safety system can–and should–get tougher.

A nationally representative 2024 CR survey shows that 67 percent of Americans are very or somewhat concerned about pesticides in fruit and vegetables. That fear is understandable: Some studies link long-term pesticide exposure to several health problems, including an increased risk of cardiovascular disease in adults and attention-deficit/hyperactivity disorder in children. In 2020, CR examined five years of government data on pesticides in produce. We found that about 20 percent of the fruits and vegetables we studied had very concerning amounts of these chemicals. In this issue, you'll find our update on that analysis, highlighting the restricted pesticides that are still being found on certain foods.

The good news is you can reduce your exposure to pesticides by using our guide to choosing produce with lower levels of toxins (see page 28), by purchasing organic fruits and vegetables (which have less, but not zero, pesticides), and by washing your produce in cold running water for 15 to 20 seconds.

We believe that the burden to avoid pesticide-laden produce shouldn't fall only on consumers. We need stronger oversight. While government agencies do regulate and test for pesticides, they're still allowing high levels that could prove dangerous for our future health. CR is working with you to raise the bar on food safety, because consumers deserve a system that holds our food to the highest standards and our health in the highest regard.

Marta Tellado

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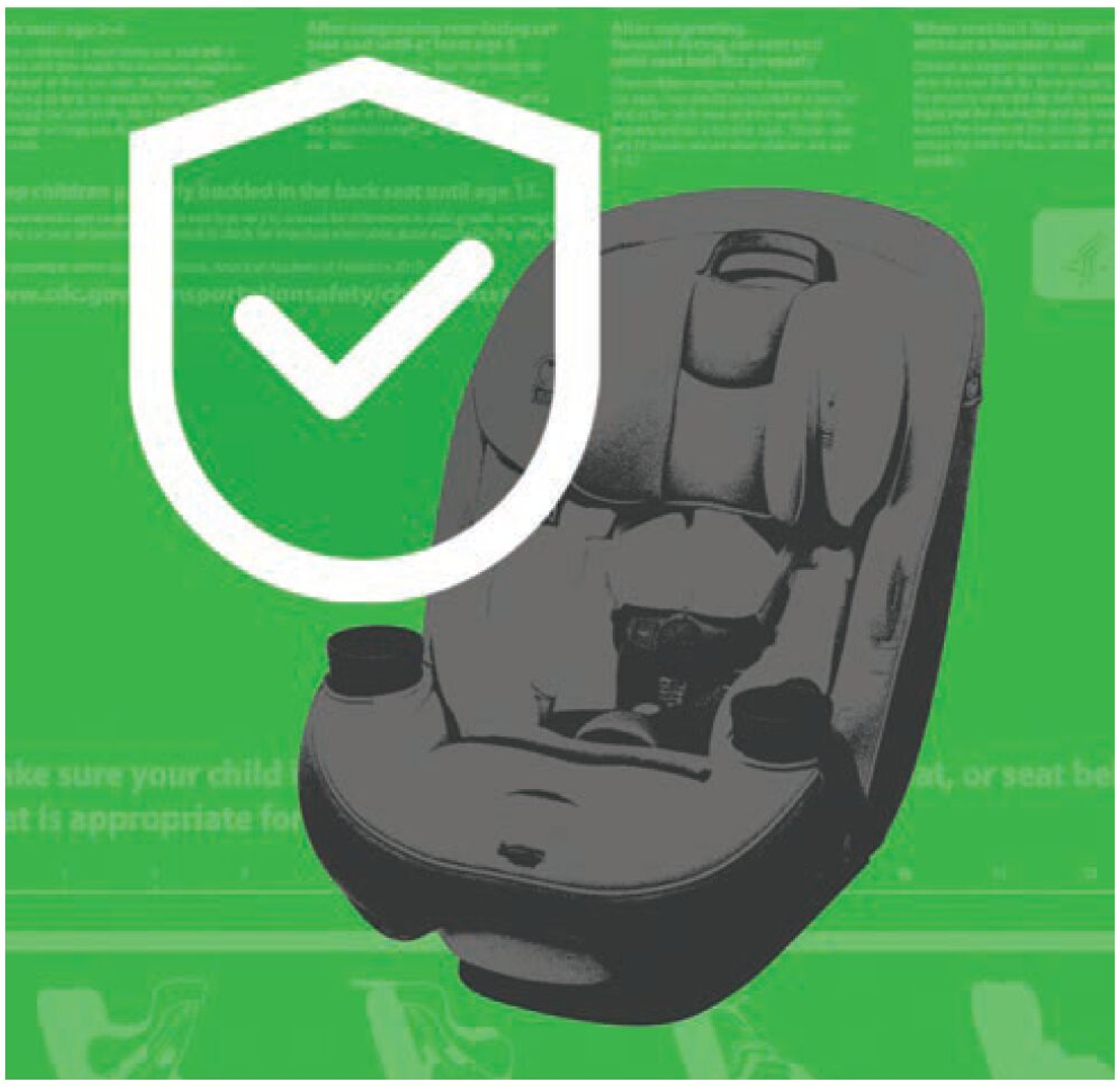

Making Child Car Seats Safer

In the U.S., a child in a vehicle is involved in a crash an average of once every 25 seconds. Child car seats reduce the risk of a fatal injury by 71 percent for infants and 54 percent for children ages 1 to 4—but CR and other safety advocates have maintained for years that child car seats could be even safer.

Finally, in February, the National Highway Traffic Safety Administration put in place updated standards that will make car seats safer and more user-friendly for caregivers, who play a vital safety role each time they buckle in their kids. A key element of the new updates is a frontal crash test environment that better reflects real-world conditions, including stiffer seats and three-point seat belts.

These changes follow a CR-endorsed June 2022 update concerning side-impact protection. Formerly, any marketing claims made about side-impact safety were based on the manufacturers' own testing. Now, uniform side-impact testing protocols establish a minimum level of performance.

Manufacturers have various deadlines for complying with the updated standards, but CR is urging that all of them be implemented as soon as possible.

The revised federal standards are a crucial step forward. But CR's own child seat testing, which began in the 1970s and was completely redesigned in 2014, is still more stringent and was designed not to set performance minimums but to distinguish and rate models that deliver additional margins of safety.

To learn more about how CR tests child car seats, and how to choose the best models for your family, go to **CR.org/carseats**.

71%

Amount by which car seats reduce the risk of infant deaths.

SOURCE: NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

CR RECALL ALERT

Last summer, after several users of BlendJet 2 portable blenders reported battery fires and broken blades to the Consumer Product Safety Commission, CR decided to evaluate the device in our own labs. When the blade assembly broke during our durability test, we called on the CPSC to take action and advised consumers to exercise caution. We amplified those warnings Dec. 19 after new reports of injuries emerged. Nine days later, BlendJet recalled more than 4.8 million of the devices. For details on how to take part in the recall, go to **CR.org/blendjetrecall**.

Protecting Your Privacy

WHAT'S AT STAKE

Many consumers know that much of what they do online is being watched and recorded, and that the information collected is often bought, sold, and used by marketers to sell us products.

What fewer of us may recognize is the vastness of this "surveillance economy," and the extent to which each of us is being targeted.

WHAT CR IS DOING ABOUT IT

To shine a light on these issues, CR recruited more than 700 volunteers to download the data that Facebook has collected about them and then send it to us for analysis. What we found was staggering. Some 186,000 companies had shared data about the 709 participants. An average of 2,230 companies had sent data to Facebook about each of them. For several dozen, the number was over 7,000.

Now CR is using these and other findings to urge legislators and regulators to reduce the overall amount of online tracking, and to give consumers both the right to opt out of data sharing and the tools they need to take advantage of those rights. For example, we're calling on the Federal Trade Commission to move forward with its Commercial Surveillance and Data Security rule, which would limit what companies can do with our most sensitive personal data.

WHAT YOU CAN DO

Start by signing our petition to the FTC in support of that rule, at **CR.org/FTCpetition**. Then consider using Permission Slip by CR, our free mobile app, which reveals the kind of data that companies collect. Then, if you choose, a tap will tell each of the companies you interact with to stop selling your information or to delete your account entirely.

ILLUSTRATIONS BY JOHN RITTER

How to Eat Less Plastic

TOP-RATED TIRES | STOP HEADACHES FAST | POWERFUL VACUUMS

CR Consumer Reports

HOW TO EAT LESS PLASTIC

There are unhealthy chemicals in many of our favorite foods. Here's what you can do right now to stay safer.

Our February 2024 cover story, **"How to Eat Less Plastic,"** revealed that chemicals used to make plastic are lurking in our food and offered ways to lessen our exposure. Readers shared their thoughts and questions. To add yours, head to **CR.org/plasticsinfood**.

IN THIS EXCELLENT ARTICLE, you have listed several products identified as "organic" that [your tests showed] contain plastic chemicals. I fail to see how these products can meet Department of Agriculture organic regulations. And why, after your testing, have they neither been recalled nor removed from store shelves? These chemicals are prohibited substances under USDA Organic regulations. When buying USDA Organic products, one should not have to worry about ingesting plastics or any other prohibited material; that is part of the legal responsibility of the certifier.
–Richard S. Wallick, Hillsboro, OR

WRITE Go to **CR.org/lettertoeditor** to share your comments for publication.

EDITOR'S NOTE *Organic regulations mostly focus on pesticide use and other growing practices. However, the organic industry is well aware of the risk of environmental contaminants of plastics like bisphenols and phthalates. In a recent statement, the Organic Trade Association announced that "to address the presence of toxic chemicals that may migrate into organic products from packaging or other food contact surfaces," it is exploring ways to push packagers and processors toward "materials and options that are consistent with organic principles."*

YOU OVERLOOKED ONE simple solution to the [plastic packaging] problem: shopping at local farmers markets. You bring your own bags. You pick your own potatoes, carrots, bread, kale, etc. At my local market only meats and cheeses are pre-wrapped in plastic. And you're supporting local farmers.
–Mary Lynne Corn, Falls Church, VA

EDITOR'S NOTE *Visiting your local farmers market and bringing your own bags can help limit the amount of plastic trash you generate. And though some plastic chemicals can enter your food even on the farm–via soil and water, for example–eating fresh, unpackaged fruits and vegetables is a great strategy for reducing your overall exposure.*

MIGRAINE MEDICATIONS

I SUFFER FROM migraine headaches. I was surprised that the treatment section for migraine in "The Best Ways to Stop a Headache" omitted CGRP inhibitors such as rimegepant (Nurtec). After getting treatment at headache clinics and trying triptans and vitamins, I was happy to finally find a drug (Nurtec) that worked consistently. And yes, it is expensive and may only be covered in part by insurance, but please educate your readers about all the treatment options.
–Ralph Edwards, Flint, MI

EDITOR'S NOTE *We agree–and we have already updated the article (see* **CR.org/stopheadaches***) to include mention of these drugs, as follows: "For severe migraines, drugs called triptans may be prescribed, or a newer class of drugs, calcitonin gene-related peptide (CGRP) antagonists such as Nurtec (rimegepant), Ubrelvy (ubrogepant), or Zavzpret (zavegepant). Side effects from triptans can include nausea, drowsiness, and dizziness, while side effects from CGRPs drugs can include nausea and indigestion. Frequent use of NSAIDS and acetaminophen can trigger rebound headaches."*

I DISCOVERED many years ago that using ice on the back of my neck and on my forehead diminished pressure headaches and had no side

effects. It generally takes about 20 minutes to work, and may feel unpleasant for the first 2 or 3 minutes. I have passed this treatment on to many friends.
–Gloria Levitas, Southfield, MA

BANK ACCOUNT SECURITY

A FOLLOW-UP to "Save and Spend More Safely Online": Can I safely link accounts to financial advisors such as Personal Capital/Empower? I am concerned they can move money or make transactions in my investment and bank accounts since they have my passwords.
–Sandy Wickersham, Tulsa, OK

EDITOR'S NOTE *While useful and convenient, services that aggregate information from your various financial accounts do come with risks, which fall into two general categories: data privacy (using or sharing your data without your consent) and data security (theft of your information, including passwords, which could lead to fraud and unauthorized transfers of your money). To protect yourself, select a reputable company that has strong data security practices in place, including multifactor authentication and encrypted data transfers. Also make sure that you've selected the strongest data privacy settings at your financial service provider websites.*

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PALM OIL IN PEANUT BUTTER

SOME OF the peanut butters you recommended in "Which Peanut Butter Tastes Best?" (in "CR Insights") contain palm oil, which is problematic for two reasons. While slightly healthier than trans fats, palm oil is high in saturated fat, which can increase unhealthy cholesterol and triglycerides. In addition, the harvesting of palm oil is a significant driver of deforestation, including destroying the habitats of endangered species. Did CR take these concerns into consideration?
–Linda Porter, Blaine, MN

EDITOR'S NOTE *We reviewed the peanut butters based on taste and nutrition, which includes added sugars, sodium, and saturated fat content. Several peanut butters we evaluated did contain palm oil, which manufacturers add to make the "no-stir" variety that many consumers prefer. While palm oil is usually about 50 percent saturated fat, that's better than hydrogenated vegetable oil, the other oil some manufacturers use in no-stir peanut butters. And most of the palm-oil peanut butters we looked at claim to be aligned with the Roundtable on Sustainable Palm Oil. (CR has not evaluated this organization or its standards.)*

WHICH VACUUMS ARE SAFER FOR BARE FLOORS?

Regarding "Vacuuming Just Got a Lot Easier": We recently replaced our carpets with luxury vinyl. The manufacturer does not recommend using a vacuum with a rotating brush. Can you suggest models that won't invalidate the warranty?
—Russell Taitz, Irvine, CA

EDITOR'S NOTE *Some manufacturers warn that the "beater bar" brush can damage bare floors—and exclude such damage from their warranty. Look for a vacuum that has a soft roller or the option to use a soft brush—or to turn off the beater bar. Examples in our ratings include the Kenmore Elite Pet Friendly CrossOver 21814 canister model, $500, which has a brush on/off switch and a floor brush, and the Dyson V15 Detect stick vac, $700, with a soft roller as well as a brushroll.*

NEW CAR RATINGS

I HAVE ALWAYS appreciated that the reviews of new vehicles–especially entirely new models–have generally not resulted in a CR recommendation due to not yet having reliability data. So when CR recommended the Nissan Ariya in the Road Test section, it made me question the current process for reviewing EVs. In the same [vehicle] category, the Hyundai Ioniq 5 was given a lower Overall Score and is not recommended–despite a significantly better road-test score and three years on the market. Can you clarify?
–Jason Webb, Portland, OR

EDITOR'S NOTE *The Ariya is recommended based on initial data from owners and Nissan's history with electric vehicles, including the Leaf, introduced in 2010. For all-new cars, we're making a prediction based on the member data we've received, augmented by an analysis of the brand's history and the reliability of other models that share common components. We update our reliability ratings and predictions each year as we receive more survey data. The Ioniq 5 has data for two model years, with the first year being well below average and the second year average. The combined data resulted in the new model year prediction as below average, and we don't recommend it.*

ILLUSTRATION BY JASON SCHNEIDER

What We're Testing in Our Labs …

In our 63 labs, we continually review and rate products. Here, timely picks for this month.

Multi-Cookers

WE TESTED: 26 models
WE TEST FOR: The tenderness level of meat/vegetables after slow-cooking them; and how well a model sautés onions, cooks rice, and steams vegetables.

ABOUT THE SCORES:
Median: 75
Range: 65-82

TOP PICK
✓ Zavor Lux LCD ZSELL02
$160

82
OVERALL SCORE

EXCELLENT FOR COOKING RICE
✓ Breville Fast Slow Pro 6 qt. BPR700BSS
$300

81
OVERALL SCORE

DOUBLES AS AN AIR FRYER
✓ NuWave Duet Pressure Cooker/Air Fryer Combo 33801
$170

78
OVERALL SCORE

Air Conditioners

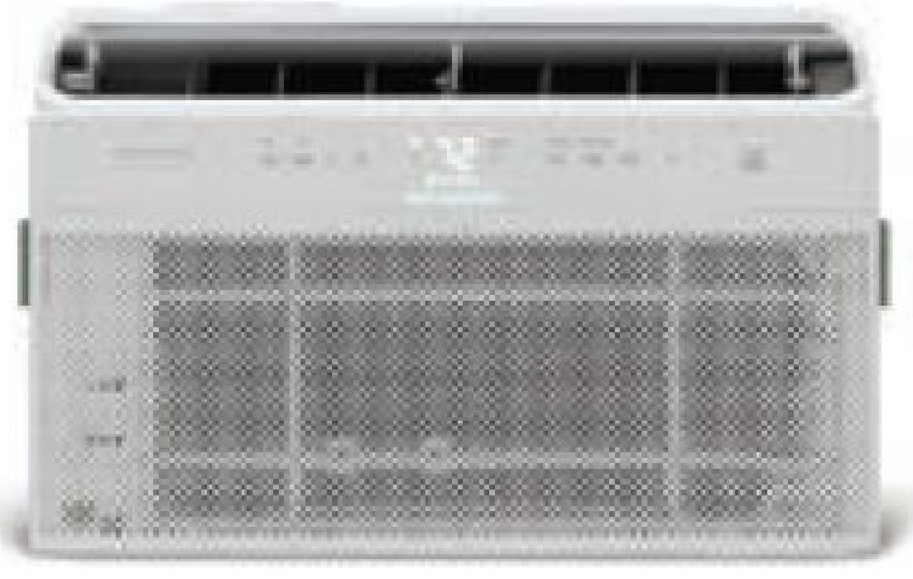
WE TESTED: 86 window A/C units
WE TEST FOR: How quickly an air conditioner can cool a room, how easy the controls are to use, how quiet a unit is, and more.

ABOUT THE SCORES:
Median: 64
Range: 31-89

BEST FOR LARGE ROOMS
✓ Midea MAW12V1QWT U-shaped
$460

89
OVERALL SCORE

BEST FOR MEDIUM ROOMS
✓ Frigidaire Gallery GHWQ085WD1
$530



89
OVERALL SCORE

BEST FOR SMALL ROOMS
✓ LG LW6023IVSM
$380

89
OVERALL SCORE

Ask Our Experts

My window A/C isn't cooling that well—and it's loud. Should I replace it?

WINDOW AIR CONDITIONERS tend to last about eight to 10 years. The first thing to do is check the filter, which could be clogged, making your A/C work harder–and louder–to cool the air. Remove the filter (usually located just behind the grille) and clean it with warm, soapy water. While the filter dries, clean the now-visible evaporator coils with your vacuum's upholstery brush, taking care not to bend the fragile fins. If your unit is old, the noise persists after cleaning, and the air coming out of the unit is warm, it could be a problem with the compressor or the level of refrigerant, says Chris Regan, who manages CR's air conditioner testing. If it's out of warranty, it's probably time to get a new one.

ILLUSTRATION: JOSEPH CARRINGTON

WORSE ⟶ BETTER

✓ CR RECOMMENDED

For the latest ratings of these and other product categories, readers with a Digital or All Access membership can go to **CR.org.**

Electric Toothbrushes

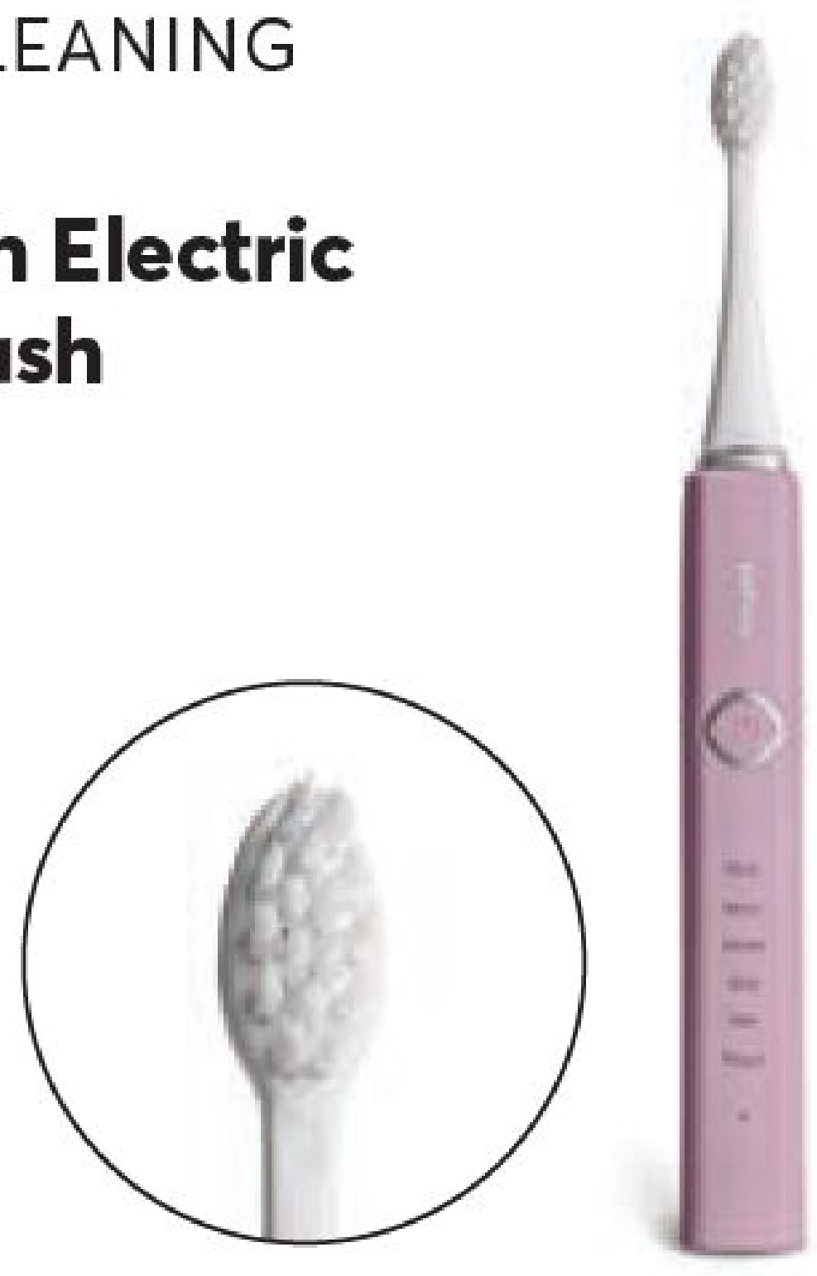
WE TESTED: 15 models
WE TEST FOR: Ability to clean plaque, ease of use, battery performance, noise when in use, and more.

ABOUT THE SCORES:
Median: 66
Range: 49-83

EASY TO USE & QUIET
✓ **Oral-B iO 7 Series**
$180

83
OVERALL SCORE

GREAT CLEANING FOR LESS
✓ **Brüush Electric Toothbrush**
$95



79
OVERALL SCORE

BARGAIN BUY BUT SHORT BATTERY LIFE
Burst Sonic
$70

64
OVERALL SCORE

Fitness Trackers

WE TESTED: 26 models
WE TEST FOR: Ease of use, heart rate monitor accuracy, water resistance, readability, and more.

ABOUT THE SCORES:
Median: 73
Range: 45-91

BEST OVERALL & LONG BATTERY LIFE
✓ **Coros Pace 3**
$230

91
OVERALL SCORE

ACCURATE HEART RATE MONITOR
✓ **Fitbit Charge 6**
$160

88
OVERALL SCORE

HIGH-QUALITY DISPLAY BUT HEAVIER
✓ **Amazfit T-Rex Pro**
$155

84
OVERALL SCORE

Wireless Routers

WE TESTED: 135 models
WE TEST FOR: The internet speed from 8 to 55 feet away from the router base, how easy the model is to set up, how well it protects your privacy, and more.

ABOUT THE SCORES:
Median: 79
Range: 41-91

BEST TRADITIONAL ROUTER
✓ **Synology RT6600ax**
$300

91
OVERALL SCORE

BEST MESH ROUTER
✓ **Linksys Velop Pro 6E Mesh System (3-pack)**
$350

90
OVERALL SCORE

GOOD DEAL
✓ **TP-Link Archer AX1800**
$50

80
OVERALL SCORE

Generators

WE TESTED: 78 models
WE TEST FOR: Power delivery and quality, noise levels, ease of use, safety, and hours of run time.

ABOUT THE SCORES:
Median: 74
Range: 38-93

3,600 WATTS & LONG RUN TIME
✓ **Powermate P0081200**
$420

80
OVERALL SCORE

6,250 WATTS & FUEL GAUGE
✓ **Briggs & Stratton 30728**
$850

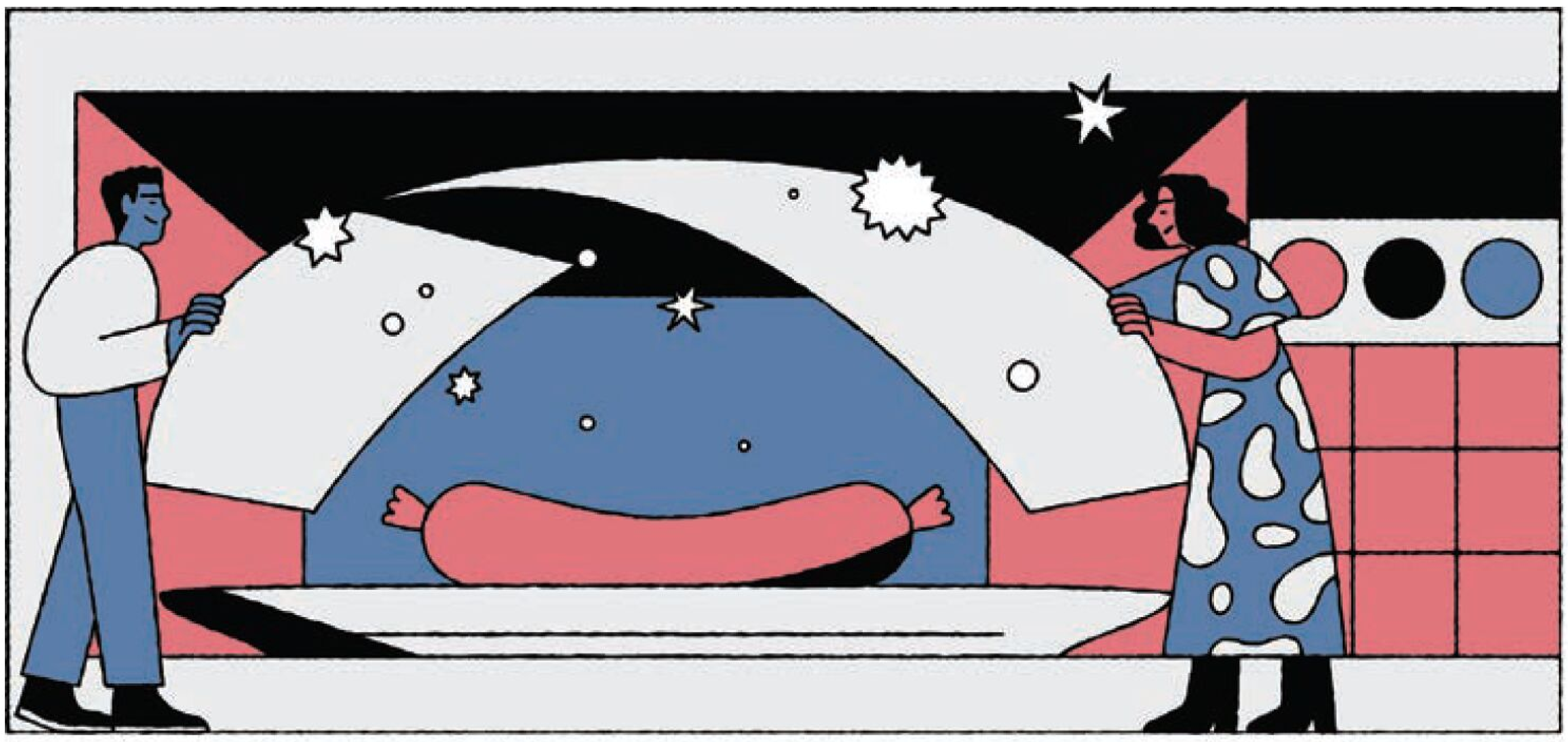
72
OVERALL SCORE

8,000 WATTS & ELECTRIC START
✓ **DeWalt PMC168000**
$1,200

71
OVERALL SCORE

Note: *We rate different products according to different testing protocols; as a result, Overall Scores of one product category are not comparable with another.*

COMING NEXT MONTH Tires & More



My microwave leaves cold spots in my reheated food. Is there a way to fix that?

IF YOUR MICROWAVE reheats food unevenly, there are a few fixes you can try.

One common mistake is always using your microwave's high power setting to reheat leftovers. Doing so can easily dry out or unevenly heat food, particularly grains like rice and proteins like fish and chicken. Try lowering the power level on your microwave, suggests Daryl Williams, executive director of global specialty products for GE Appliances. It will take your food a little longer to reach the desired temperature, but the food should heat more evenly. Also, it's better if you don't fill your plate with different foods that need to be reheated for different amounts of time.

Covering your food while cooking it also helps to keep in moisture and heat it more evenly. The Department of Agriculture says wax paper, cooking bags, parchment paper, and white microwave-safe paper towels are all safe choices to use.

Finally, pausing the microwave halfway through the cook time to stir food helps it heat more evenly. After trying these measures, if your reheated food still has cold spots, it might be time to consider buying a new microwave that scores high in our evenness tests, like the top-rated Panasonic NN-SN77HS ($255).

LEARN

We have more than 140 in-house experts who research, test, and compare. Submit your questions at **CR.org/askourexperts** ... and watch for the answers.

Is Ozempic, the drug often used for weight loss, safe?

OZEMPIC IS A BRAND name for an injectable drug known as semaglutide. It slows digestion, helps trigger insulin release, and makes you feel full by mimicking a hormone made by your small intestine. Ozempic was first approved by the Food and Drug Administration in 2017 to treat type 2 diabetes. In 2021, Wegovy, a slightly higher-dose semaglutide injectable, was approved for people who are obese or those who are overweight and have other medical conditions, such as type 2 diabetes.

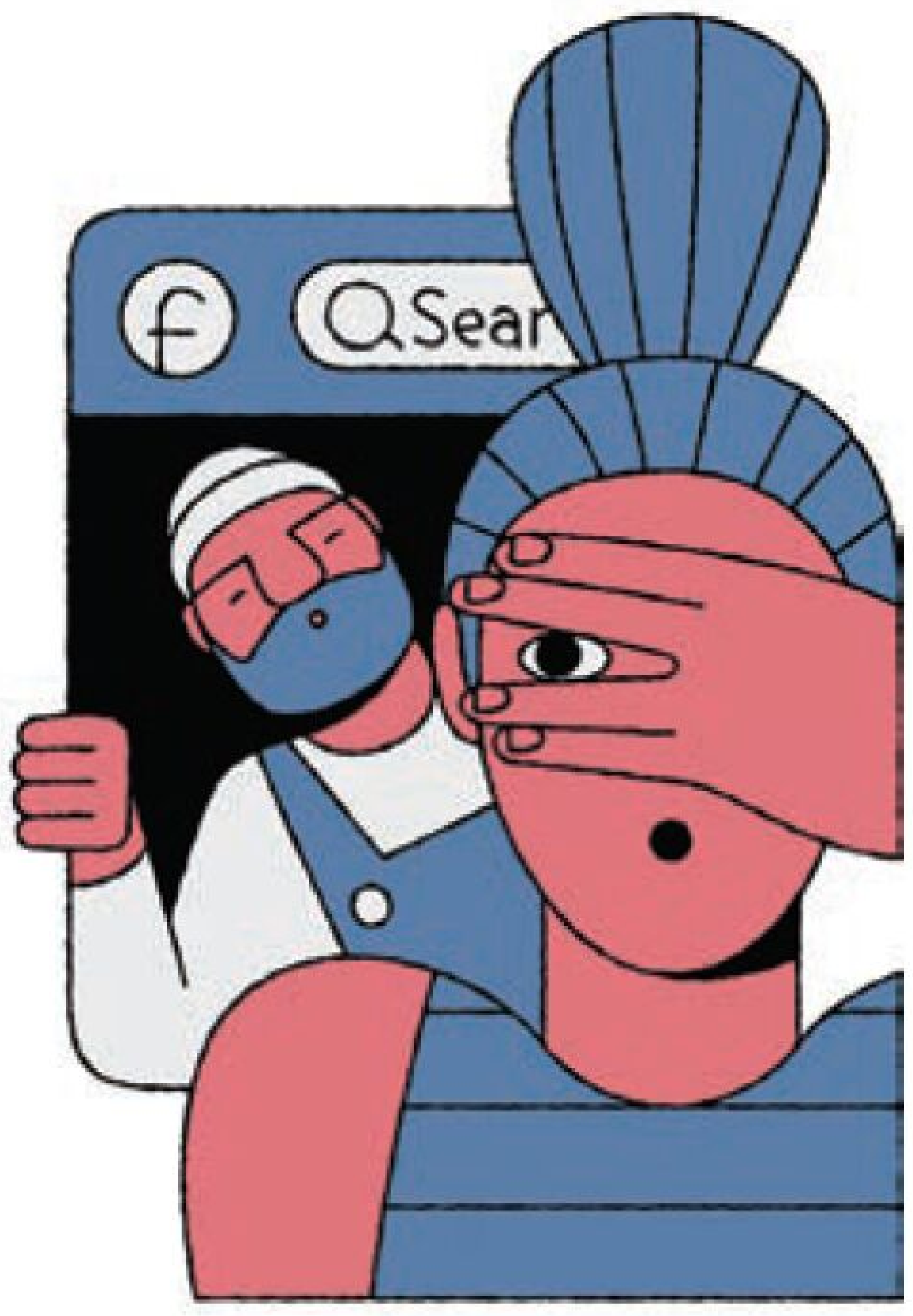
These drugs can result in significant weight loss. In one clinical trial, people who injected semaglutide once a week lost an average of 16 percent of their body weight after 15 months. But Ozempic and Wegovy are pricey and often in short supply. And for most people, the pounds lost stay off only as long as they keep up the weekly injections. Still, for many obese people, the benefits outweigh the potential risks.

A vast majority of people who use semaglutide experience at least one side effect. The most common are nausea, diarrhea, and vomiting. Semaglutide has also been associated with an elevated risk of pancreatitis, heart arrhythmia, and gall-bladder disease. In January, the FDA announced it was investigating reports that some people taking these medications were having suicidal thoughts. But so far, a clear link hasn't been confirmed.

Is there a way to "unfriend" someone on Facebook without them knowing it?

WHEN YOU CLICK on the "Unfriend" button on Facebook, it doesn't alert that person to your action. So it's possible they won't notice. But if your former friend searches for you, they'll see you're no longer connected as friends. If you're worried about burning bridges, Facebook has other boundary-setting tools that may meet your needs. Don't want updates from a friend anymore? Go to that person's profile page and click on the "Friends" button at the top right, then select "Unfollow." This keeps that person as a friend but removes their posts from your newsfeed (without them knowing).

Don't want them to see what you post? You can customize who sees posts on your timeline in your privacy settings. Type "privacy settings" into Facebook's search bar to get there, then scroll to "Audience & Visibility." When you create a new post, you can also choose a default audience to exclude certain friends from seeing it. And you can even retroactively edit who sees old posts you've made on your timeline by clicking on the three dots at the top right of a past post and selecting "Edit Audience."



ILLUSTRATIONS BY JOSEPH CARRINGTON

CR Insights

PRODUCT RECOMMENDATIONS AND PRACTICAL ADVICE

IN THE KNOW

A Better Way to Make Popcorn

● You've probably heard that bagged microwave popcorn isn't the healthiest choice. While many contain only 130 to 180 calories per serving (that's about 4.5 cups when popped), they often have not-so-healthy ingredients like palm oil, which is high in saturated fat. And recent research reveals that those microwaveable bags can also add toxic PFAS chemicals to your popcorn. These chemicals have been linked to some cancers, immune system suppression, and more.

Instead, use one of these at-home popcorn poppers, which may reduce the risk of toxins like PFAS being added and will keep your snack light because most don't require oil to pop the kernels. An at-home popper can also save you money because bags of unpopped kernels cost about 20 cents less per ounce than bagged popcorn. To find out which popcorn machines produced the tastiest popcorn, we put a bunch to the test.

TOP POPPER

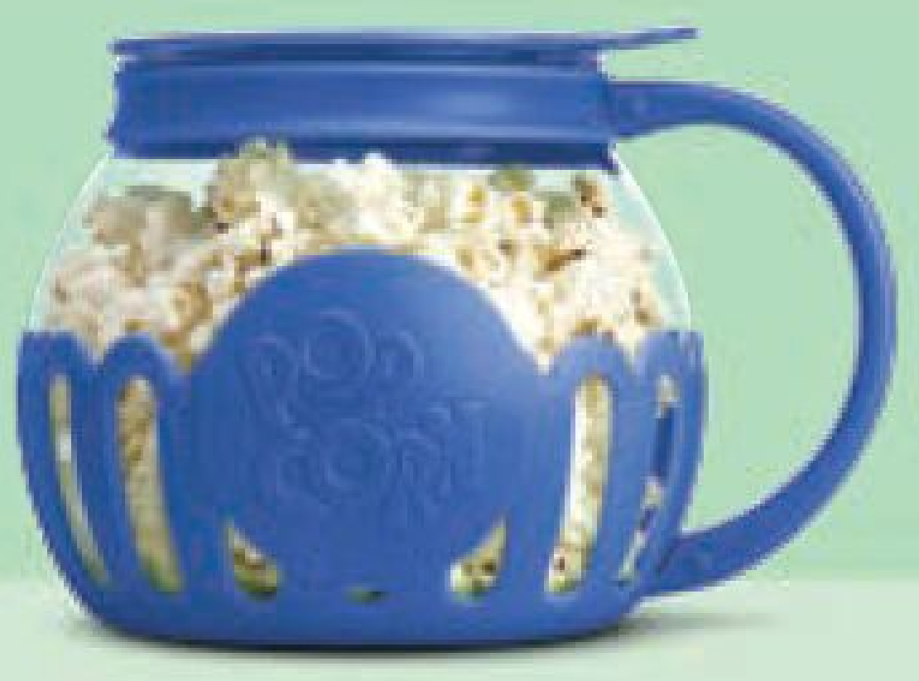
Dash Hot Air Popcorn Popper (16 cups) $20

This machine gave us light, toasty kernels with a pleasant snap when chewed. Even unseasoned, the flavor was excellent.

RUNNER-UP

Presto Poplite (18 cups) $30

The Poplite's popcorn was remarkably similar to the Dash's (at far right)—our tasters said it was only slightly less crunchy and toasted-tasting. One drawback: There's no on/off switch. The only way to turn it off is to unplug the machine.



GOOD MICROWAVE-POPPER

Ecolution Micro-Pop Microwave Popcorn Popper (6 cups) $13

This glass carafe is designed for microwaves with turntables. It turned out decently chewy, puffed-up kernels, but its output of just 6 cups is much smaller than the other machines'.

SPACE-SAVER

Popco Microwave Silicone Popcorn Popper (15 cups) $15

Short on counter space? This microwaveable silicone bowl yields nearly as much popcorn as the Dash, and it folds flat. But we had to add a little oil to the kernels to get an even, tasty pop.

PHOTOS, FROM LEFT: MANUFACTURERS (3); GREGORY REID; PROP STYLING BY WENDY SCHELAH

TECH UPDATE

3 Ways to Fix Your Email Frustrations

● Feel like you're drowning in email, much of which is spam? Here's help: Our tech experts will show you how to quickly delete the emails you don't want, organize the ones you do, write emails more efficiently, and generally make dealing with your inbox a heck of a lot easier.

Delete Old/Unwanted Emails Fast

Getting notices that you're almost out of storage space? First, search for all emails that have an attachment because those are the biggest digital space hogs in your inbox. In the search bar, type "has:attachment" to find all of them. Then check the "Select All" button (the square icon at the top left of your inbox) and click "Select all messages that match this search." Deselect any emails you want to keep, then click the trash can icon to bulk delete everything else.

Create Labels and Filters

Your inbox will benefit greatly from a little old-fashioned organization. If you get daily e-newsletters, for example, but you don't want them cluttering up your main inbox, send them to their own folder. In Gmail's Settings, click "Filters and Blocked Addresses," then "Create a New Filter." There, you can label certain types of emails and make them go to that labeled folder, skipping your inbox. You can also tag emails as "Important" with the arrow marker, which teaches Gmail to flag them in the future so that you're less likely to miss a bill or note from your doctor.

Use AI to Save Time

Here's a truly helpful way to use artificial intelligence, which can make reading and writing your emails faster. In Outlook, you can have AI summarize long email threads by clicking the "Summarize" button in the subject line. You'll get a short description of the main points inside the body of the email. You can also use AI to generate entire emails by clicking the "Copilot" icon. And in Gmail, if you turn on "Smart Compose" in the settings, the system will begin to learn your writing style and then will offer smarter suggestions the more often you use it.

ICONS: RODRIGO DAMANTI. PHOTOS: BETTMANN/GETTY IMAGES (HELICOPTER); GEORGE RINHART/CORBIS VIA GETTY IMAGES (RACHEL CARSON); GETTY IMAGES (3); MANUFACTURERS (3); CONSUMER REPORTS (8)

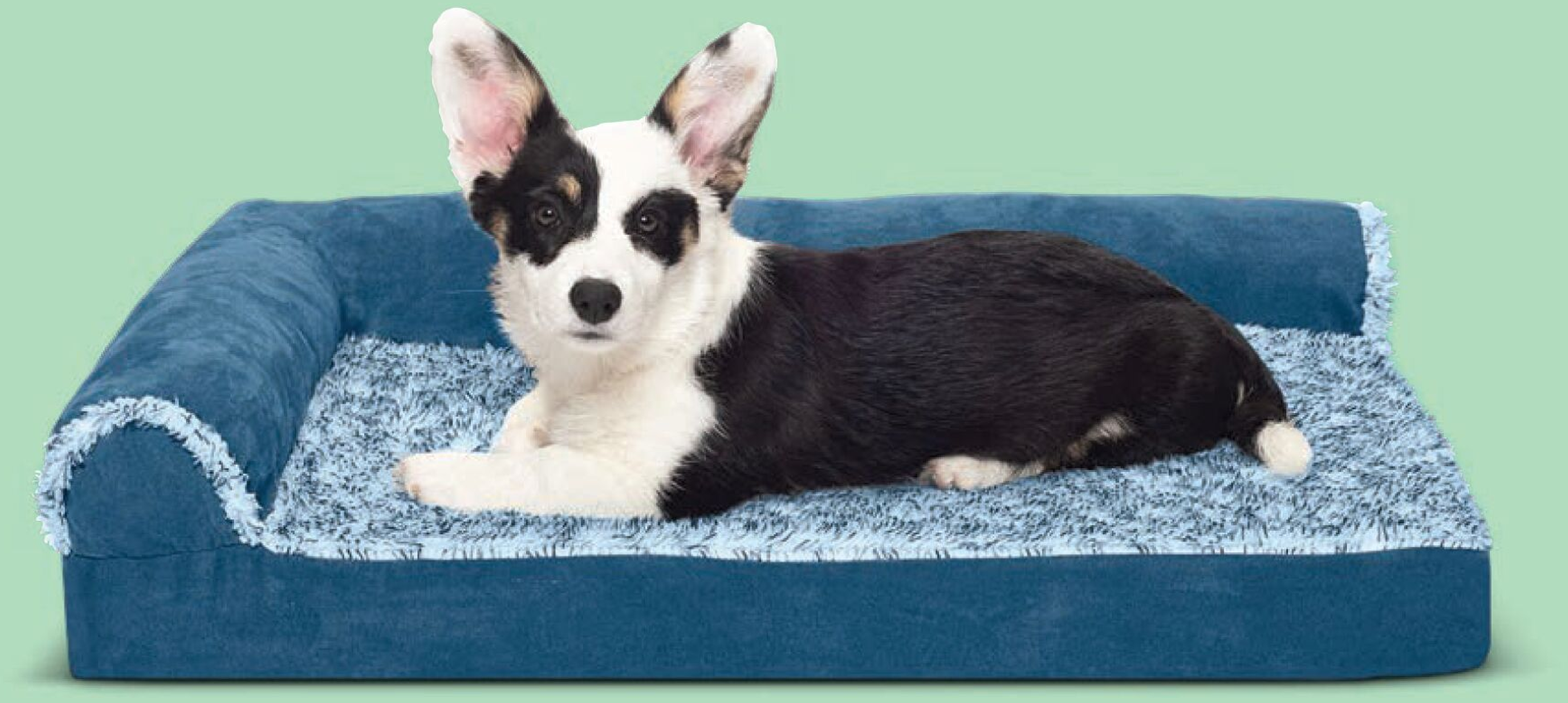
CR Time Traveler FRUITS & VEGGIES

1938 We test 12 strawberry preserve brands and find that only two have enough fruit and aren't too sweet: Schrafft's and White Rose.

1943 High food prices mean fresh produce is too costly for many Americans. CR offers ways to make use of fruit peels and parts usually thrown away.

1953 CR tests 68 brands of canned pineapple and finds that most contain tasty fruit but are overpriced at 40 cents a can ($4.59 in today's money). We suggest Grand Union's canned pineapple for only 22 cents.

1962 "Silent Spring," the best seller by biologist Rachel Carson, is published. It sounds the alarm on the harmful health effects of pesticides like DDT (dichloro-diphenyltrichloroethane).



FACE-OFF

Pet-Approved Dog Beds

These days, it's a dog's world when it comes to getting a good night's sleep. Now your pet can sack out on an orthopedic bed, a memory foam cushion—even a miniature dog sofa. CR enlisted help from some canine testers—Trixie, Zuzu, and Blake—to assess three of the top-selling dog beds. The mission: Uncover those that are most comfortable and durable. We also looked at which beds were the easiest to set up, and most aesthetically pleasing.

BEST IN SHOW

FurHaven Deluxe Chaise Lounge Dog Bed
(for dogs up to 125 lb.)
$29-$153

This orthopedic foam bed was far and away the favorite. Each dog returned to it unprompted. But it may not be best for chewers: Blake made a hole in the cover.

MEET OUR TESTERS

Trixie
8-Year-Old Pit Bull; 56 Pounds

Zuzu
1-Year-Old Shih Tzu; 11 Pounds

Blake
4-Year-Old Labradoodle; 36 Pounds

STURDY BUT PRICEY

Casper The Dog Bed
(for dogs up to 90 lb.)
$139-$249

Casper, which also makes some CR Recommended mattresses, makes its dog bed with memory foam and a soft machine-washable cover. All the dogs tried it, but Blake ultimately snubbed it in favor of the couch. Zuzu and Trixie used it occasionally.

LAST PLACE

Frisco Steel-Framed Elevated Dog Bed
(for dogs up to 85 lb.) $23

Elevated beds with steel frames can be a good pick for puppies or dogs who rip up soft beds (we're looking at you, Blake). But, alas, all three testers had to be coaxed to lie on its PVC-coated fabric at first and then they never returned to it.

1972 The Environmental Protection Agency bans DDT, which has been used on crops, due to its harmful environmental effects and health risks.

Consumer Reports
You know the biggest. Do you know the best?
Campbell's
Tomato

1980 CR tests 26 vegetable soups and finds that all are pesticide-free. One of the best-tasting: Campbell's Chunky Vegetable Soup.

Frozen concentrate: Minute Maid, Florida Gold

1995 We sample 36 orange juice brands and find that ones labeled "premium" aren't the tastiest. Frozen concentrates often taste best and cost less. Frozen cans from Minute Maid and Florida Gold are called "Best Buys."

Bonne Maman
Strawberry Preserves

2013 Yearly sales of strawberry jams and jellies in the U.S. hits $167 million. Out of nine brands we test, Bonne Maman—made from whole fruit—tastes best.

2020 We analyze information from the Department of Agriculture to learn the pesticide risk of many types of produce, and reveal those with the lowest risk (like broccoli).

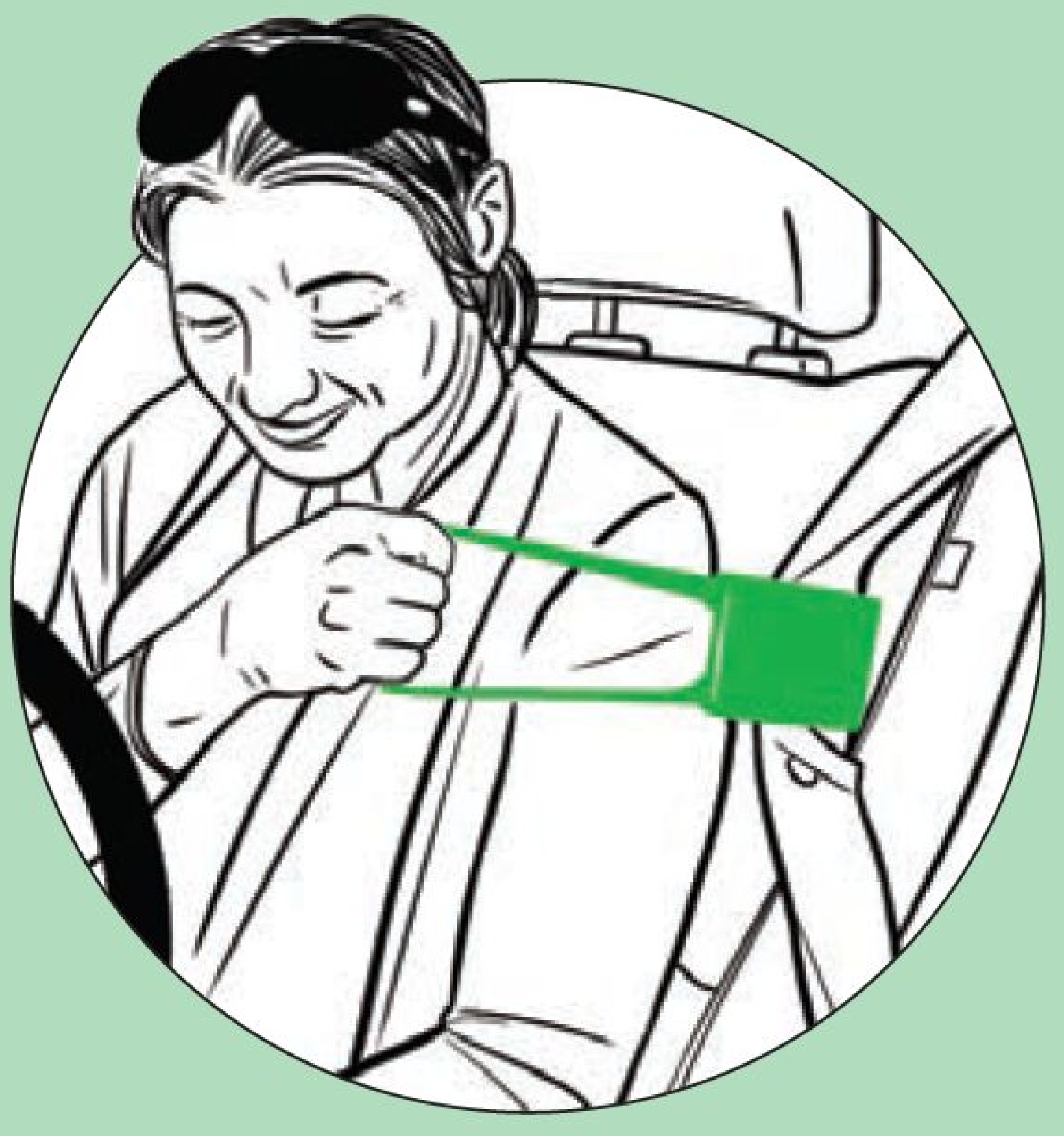
2024 We assess the pesticide risk of 59 kinds of fruits and vegetables. Bananas are among the safest choices in our ratings this year.

For our latest investigation on pesticides in produce, and how to reduce your risk, turn to page 28.

AUTO UPDATE

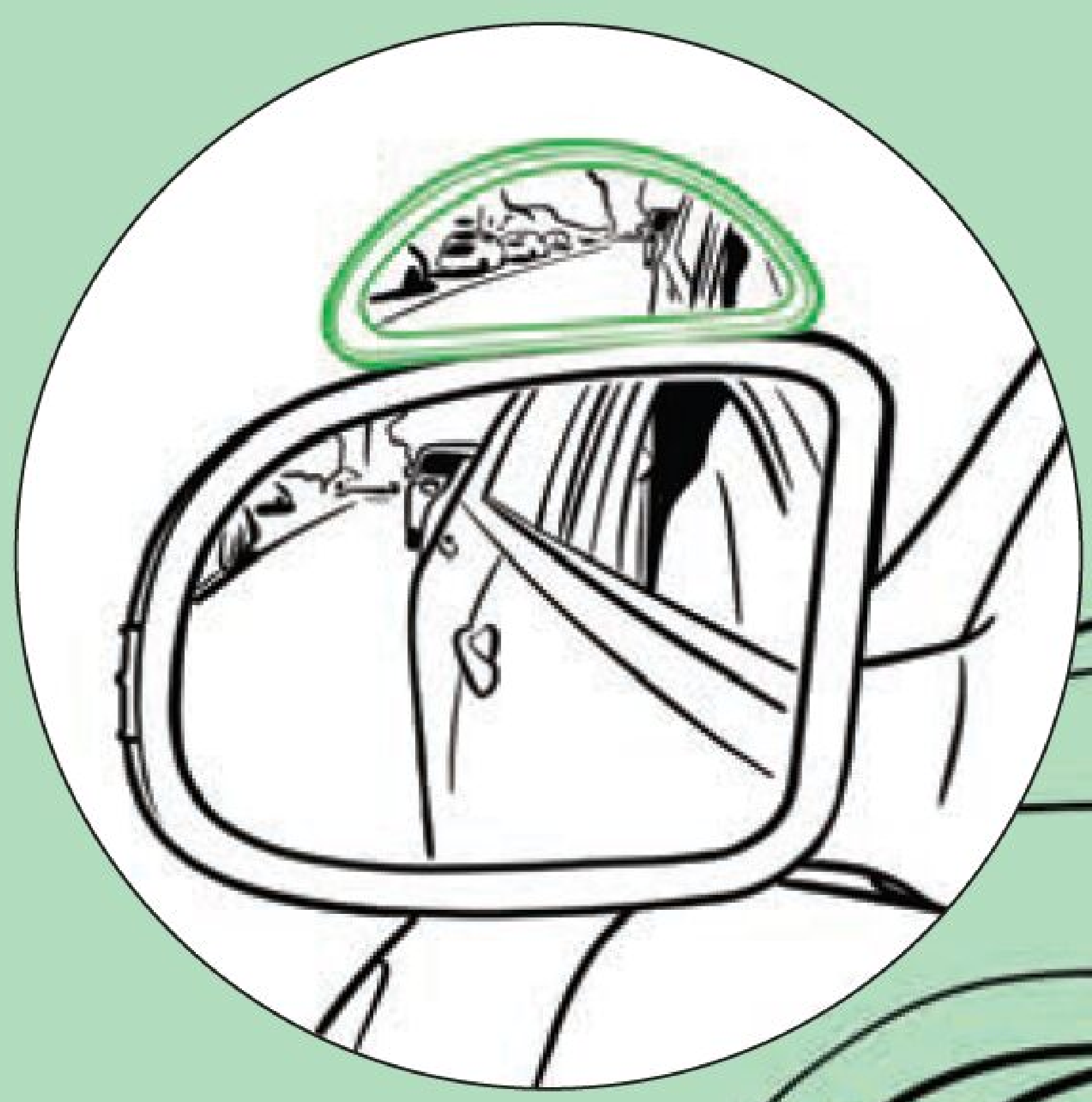
Get In (& Out of) Your Car More Easily

● Do you have trouble getting out of a too-low car seat or struggle with a fiddly, out-of-reach seat belt? You're not alone: Many drivers face mobility issues—and not all cars put accessibility first. The good news: There are easy-to-install, low-cost gadgets that can make life in your car easier, more comfortable, and safer. Before buying, talk with a healthcare provider about these add-ons to be sure they're the right ones for your needs.



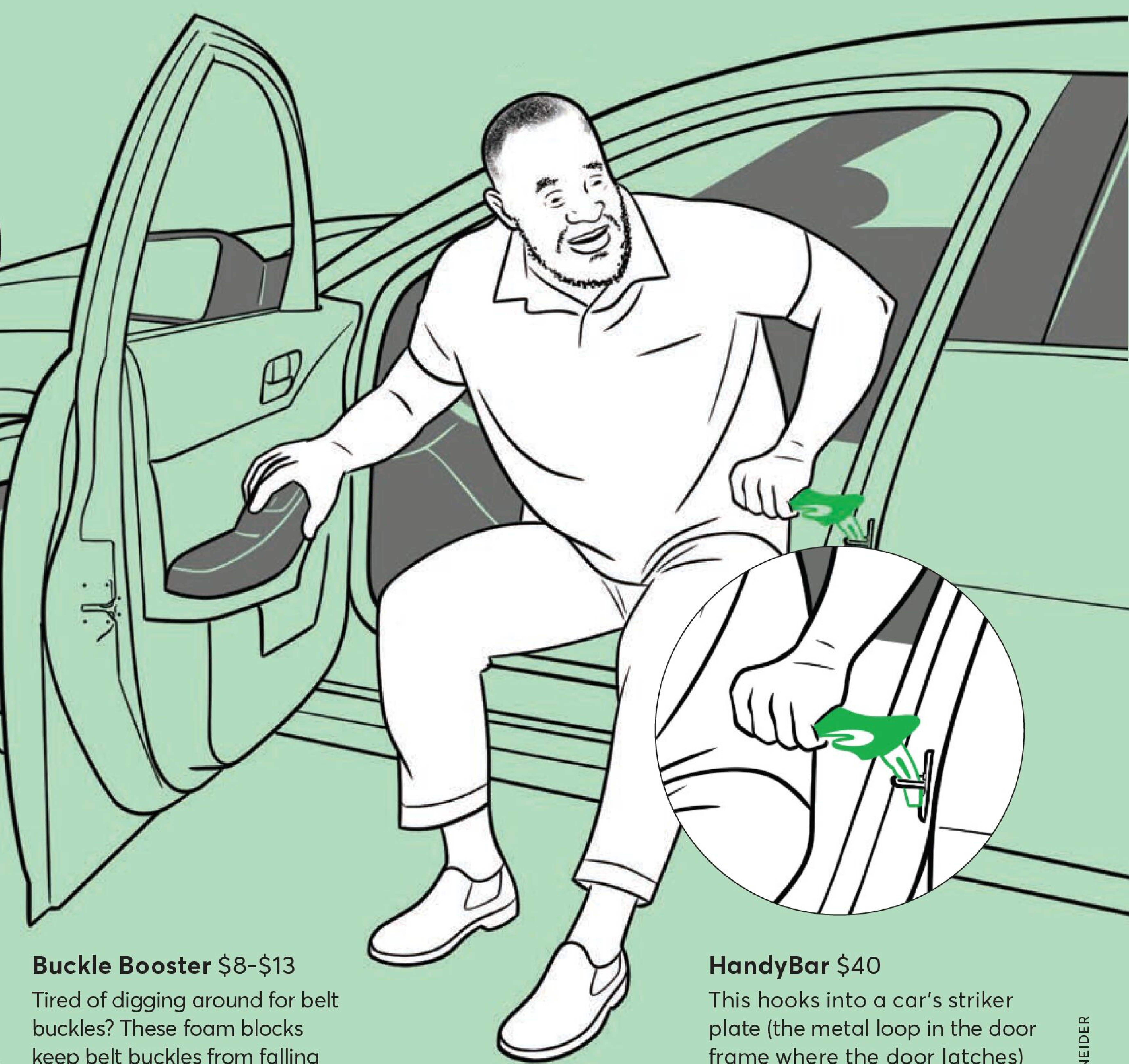
Seat Belt Grabber $9-$14

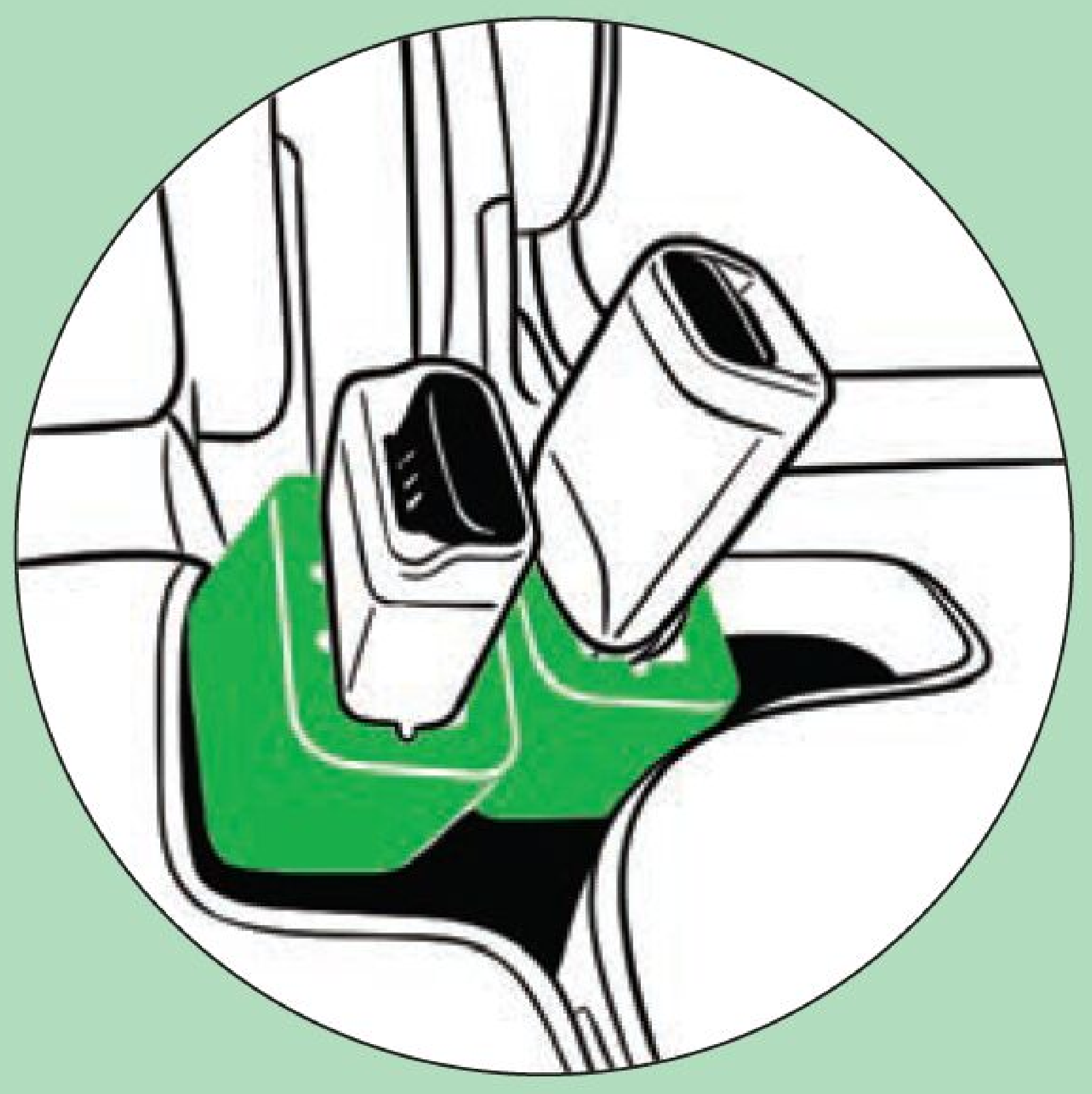
This simple add-on makes it easier to pull a shoulder belt across your body without twisting and reaching across or behind you. Attach it to your seat belt and then use the extended rubber handle to pull the belt across you.



Blind-Spot Mirror
$5-$30

If you have trouble turning your head sometimes to check a blind spot while driving or parking, try these stick-on or clip-on mirrors. They attach to your existing side-view mirrors in order to expand your view.





Buckle Booster $8-$13

Tired of digging around for belt buckles? These foam blocks keep belt buckles from falling beneath the cushions. They also steady the buckle so that it's easier to insert the metal tongue using only one hand.

HandyBar $40

This hooks into a car's striker plate (the metal loop in the door frame where the door latches) to provide a handle to hold onto when exiting. "Car door frames are strong, so this provides great support," says Cindy Kovar, program director for Silver Drivers Safe Texans at Texas A&M AgriLife extension service.

ILLUSTRATION: JASON SCHNEIDER

Best and Worst Coffee Creamers

SOWN
ORGANIC OAT Creamer
UNSWEETENED
Elmhurst
Simpler. Better.
PLANT BASED OAT CREAMER
FRENCH VANILLA

Plenty of creamers look like a healthy choice, with labels that say “organic,” “vegan,” “naturally flavored,” and “unsweetened.” But are they healthier than cow’s milk or plant milk? We decided to look closely at what’s in 22 creamers (including dairy and plant-based options) and found that most are packed with sugar.

Only a few of the creamers we tested that were low in added sugars still tasted good (see our two top picks, at left). The others–especially those with vanilla flavoring–aren’t so good for you: “Per tablespoon, most vanilla creamers we reviewed had 3 to 5 grams of sugar,” says Amy Keating, RD, CR’s nutritionist. Most of the creamers also included additives like vegetable oils, gums, and emulsifiers that give them a creamy texture but may also cause digestive upset and inflammation. In most cases, you’re better off using whole milk, plant milk, or even half-and-half, and adding your own sugar, Keating says. Or, if you prefer a creamer, stick with the two healthier picks here.

Note: All nutrition information is for 1 tablespoon.

TOP PICKS

BEST UNSWEETENED CREAMER

Sown Organic Oat Creamer, Unsweetened
(32 oz.) $7

CALORIES: 20

ADDED SUGARS: 0 g

INGREDIENTS: Organic oatmilk, organic canola oil, calcium carbonate, potassium citrate, gellan gum, baking soda

BEST VANILLA CREAMER

Elmhurst Oat Creamer French Vanilla
(16 oz.) $6

CALORIES: 15

ADDED SUGARS: 1 g

INGREDIENTS: Oat milk, hemp cream, cane sugar, natural flavors, dipotassium phosphate, potassium citrate

2 SUGAR-FILLED CREAMERS TO SKIP

Coffeemate Coffee Creamer French Vanilla
(32 oz.) $6

CALORIES: 35

ADDED SUGARS: 5 g

INGREDIENTS: Water, sugar, soybean oil, micellar casein, dipotassium phosphate, mono- and diglycerides, cellulose gel, cellulose gum, natural and artificial flavor, carrageenan

Planet Oat Oatmilk Creamer French Vanilla
(32 oz.) $5

CALORIES: 25

ADDED SUGARS: 4 g

INGREDIENTS: Oatmilk, cane sugar, sunflower oil, natural flavors, vanilla extract, sunflower lecithin, dipotassium phosphate, pea protein, baking soda, sea salt, vitamin C, gellan gum

NON-CREAMER PICKS

Elmhurst Unsweetened Milked Oats

CALORIES: 6

ADDED SUGARS: 0 g

INGREDIENTS: Filtered water, whole-grain oats, salt

Malk Organic Vanilla Almond Milk

CALORIES: 4

ADDED SUGARS: 0 g

INGREDIENTS: Filtered water, organic almonds, organic vanilla extract, Himalayan pink salt

Whole Milk

CALORIES: 9

ADDED SUGARS: 0 g

INGREDIENTS: Milk, vitamin D

Half & Half

CALORIES: 20

ADDED SUGARS: 0 g

INGREDIENTS: Milk, cream

PHOTOS, FROM TOP: GREGORY REID; PROP STYLING BY WENDY SCHELAH; SCOTT MEADOWS/CONSUMER REPORTS (2)

PRODUCT SPOTLIGHT

Great Grills for $800 or Less

● If you've been thinking about replacing your old grill, this summer could be the time to score a deal on a top-notch model. Grill prices tend to drop around July Fourth—with the biggest savings on last year's models, says Nish Suvarnakar, CR's senior market analyst for grills. And while some large and even midsized grills can cost more than $3,000, our testing reveals that you don't need to spend that much to get great grilling performance. Below, we've curated a list of lower-priced models that cook evenly in our tests and are easy to use, no matter what size or style you're looking for.

GAS GRILLS

These grills preheat quickly and have stainless steel or coated cast-iron grates, which maintain even grilling temperatures better than other grill types. A slide-out tank tray (see the Monument below) makes changing the propane tank easier.

LARGE WITH STAINLESS STEEL GRATES

✓ Monument Grills 77352
$730

85 OVERALL SCORE

MIDSIZED WITH STAINLESS STEEL GRATES

✓ Even Embers GAS8560AS
$400

76 OVERALL SCORE

SMALL WITH COATED CAST-IRON GRATES

✓ Permasteel PG-40301-BK
$380

70 OVERALL SCORE

CHARCOAL GRILLS

If you like a barrel shape, get a grill like the Dyna-Glo below, which has a coal door for adding and rearranging coals. On kamado-style grills, we like multiple dampers for temperature control. On smaller kettle grills, look for a long warranty.

EASY-TO-USE BARREL GRILL

✓ Dyna-Glo DGN576DNC-D
$300

81 OVERALL SCORE

KAMADO-STYLE WITH MULTIPLE DAMPERS

Pit Boss K22 Ceramic 71220 $800
(also shown above)

70 OVERALL SCORE

KETTLE WITH A 10-YR. WARRANTY

✓ Weber 22" 14402001
$239

67 OVERALL SCORE

PELLET GRILLS

These blend the flavor of a smoker with the convenience of a gas grill. Look for one with a large hopper so that you can cook longer without needing to add more pellets. Built-in temperature probes let you monitor food without opening the lid.

20-LB. HOPPER & BUILT-IN PROBES

✓ Dyna-Glo Signature Series DGSS700BPW-D-Kit $500

76 OVERALL SCORE

15-LB. HOPPER, GRILLS WELL AT HIGH & LOW TEMPS

Lifesmart SCS-P760 Grill
$380

72 OVERALL SCORE

18-LB. HOPPER WITH WIFI & A BUILT-IN PROBE

Traeger Pro 575 TFB57GLE $800

70 OVERALL SCORE

ILLUSTRATION: JASON SCHNEIDER. PHOTOS: CONSUMER REPORTS (7); MANUFACTURERS (3)

WORSE ⌄⌄ ⌄ ● ⌃ ⌃⌃ BETTER

✓ CR RECOMMENDED

SAVVY SHOPPER

Top-Notch Coolers

● A cooler that doesn't keep things chilled can leave you with warm drinks in a puddle of melted ice. CR tester José Amézquita evaluated six popular coolers to discover which are easier to carry, and how well they'll actually keep drinks chilled on long, hot days. Here: three coolers that get the job done—and one that doesn't.

EDITOR'S PICK

Coleman Chiller 9-Quart Portable Cooler $30

FITS: 7 12-oz. cans + ice

WEIGHT: 2.9 pounds

This sturdy, hard-sided cooler is a great buy, keeping drinks icy cold for 3 hours at room temperature and 2 hours at 100° F—almost as long as the Yeti (below) but for $170 less.

TOP-PERFORMING SPLURGE

Yeti Hopper Flip 8 Soft Cooler $200

FITS: 8 12-oz. cans + ice

WEIGHT: 2.8 pounds

This Yeti cooler was the top performer in keeping drinks thoroughly chilled. The semi-soft sides and long shoulder strap make carrying slightly easier than the Coleman, but both coolers weigh about the same when empty.

SUPER-COMPACT & LIGHTWEIGHT

RTIC 6 Can Everyday Cooler $25

FITS: 6 12-oz. cans + ice

WEIGHT: 1 pound

This cooler's insulation is about half as thick as the Coleman's and Yeti's, and there was slightly more ice meltage during our testing. Still, this compact cooler was able to hold 6 cans without a problem.

ONE TO SKIP

Carhartt Deluxe Lunch Cooler $30

FITS: 9 12-oz. cans + ice

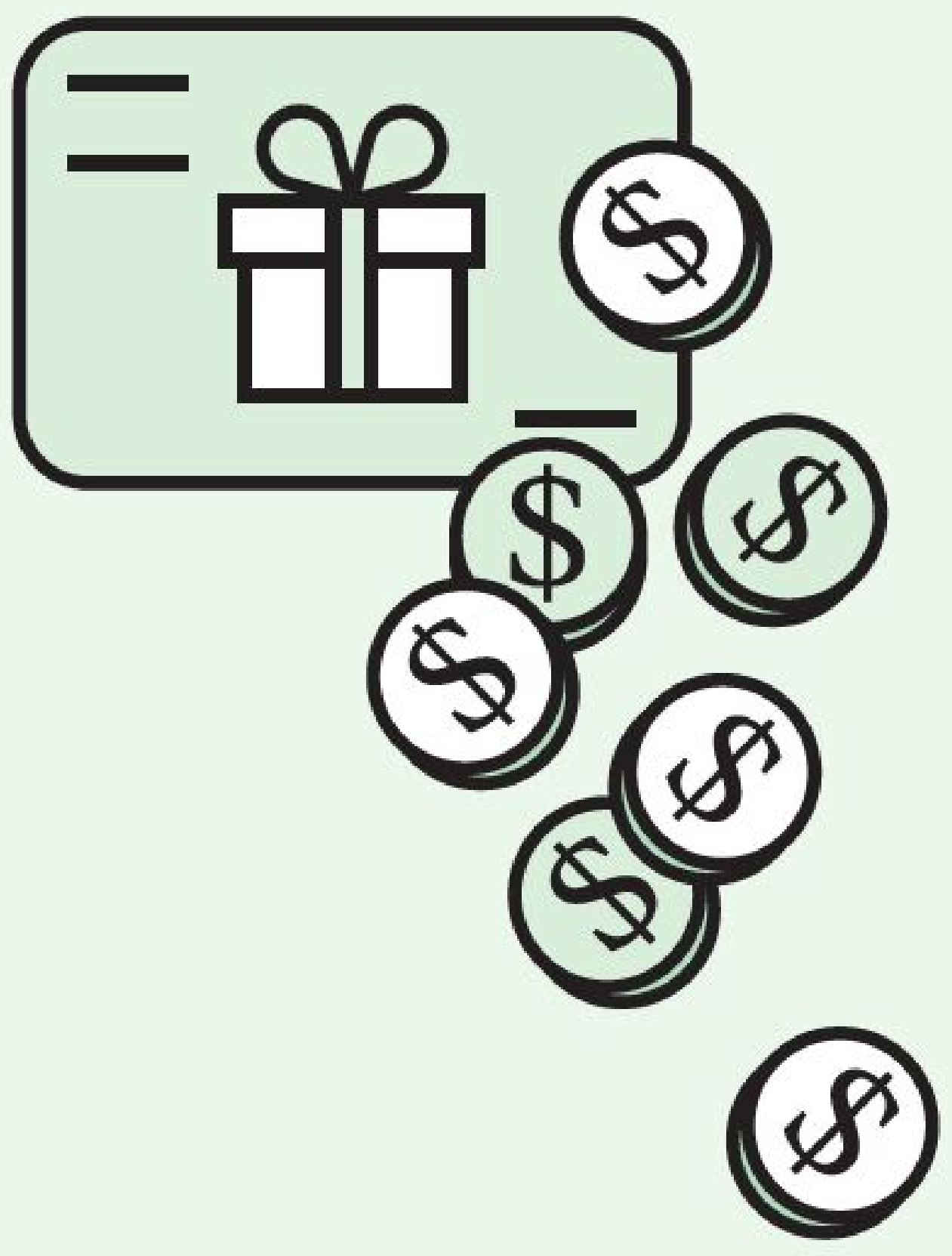
WEIGHT: 0.7 pound

"With very thin insulation, this cooler was the worst at maintaining a cold temperature," Amézquita says.

PHOTOS: SCOTT MEADOWS/CONSUMER REPORTS. ICON: RODRIGO DAMANTI

CR MONEY SAVER™

Get the Last Dollar From Your Gift Cards



● Nearly half of all U.S. adults are hanging on to at least one unused gift card, according to a 2023 survey by consumer finance company Bankrate. But what can you do with a gift card that has, say, a balance of $4.36?

Store-branded gift cards can often be used for partial payment, in-store or on the retailer's website, with the balance charged to your credit or debit card. But if you don't think you want to buy anything else from that store just to recoup a few dollars, here are other ways to redeem every cent.

Go to a physical store and ask the merchant to give you cash. Some states require retailers to give consumers cash on request (in person) if their gift card falls below a certain value. For example, in Colorado, you can request cash for any card worth less than $5. Learn about the gift card laws in your state at classaction.org/gift-card-laws. No gift card law where you live? "Ask the store for cash anyway," says Cassandra Happe, an analyst at WalletHub. "The worst case is they'll say no."

Spend the remainder at a partner store. Your card may look like it's branded to just one store, but major retailers will often allow you to spend the gift card at one of their sister stores. For example, a Gap gift card can be redeemed at Gap Factory, Banana Republic, Banana Republic Factory, Old Navy, or Athleta. To see what sister stores a retailer may have, go to its website. Potterybarn.com, for example, lists all of its sister brands, including West Elm and Williams Sonoma, at the top of its main web page.

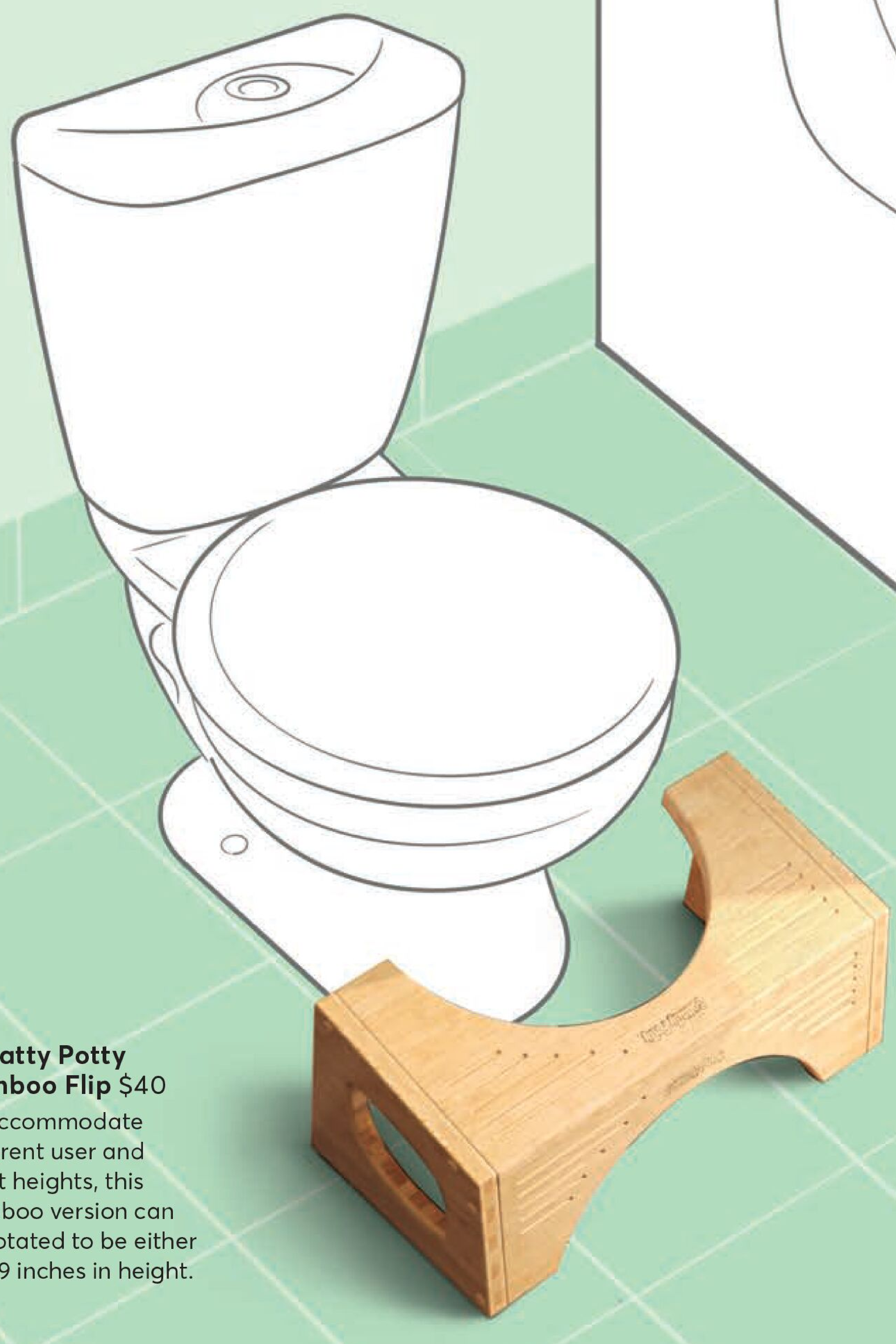
Reload the card and re-gift it. "Some stores allow you to add money to the balance, giving you the option to put a little more cash on the card and then give it to someone else," Happe says. Macy's, for example, allows customers to reload gift cards in-store.

Donate it. You can donate the balance of a Visa, Mastercard, or Amex, or even a store-branded gift card to a nonprofit for people in need through a site like GiftCards4Change.com. Also, "if you want to have an impact on your local community, see if your local food bank or shelter will take the gift card," Happe says.

HEALTH UPDATE

The Constipation Fixer

● Up to half of older adults have chronic constipation. Whether that bathroom problem is constant or just occasional, there are a few ways to find relief. If you've experienced it, you may already have talked to your doctor about the diet and lifestyle moves that combat constipation, like eating fiber-rich foods. But there's a product now being advertised heavily on TV that some research has found to be helpful. It's called the Squatty Potty, and it's a footstool that users put their feet on while sitting on the toilet. The position–which straightens one's pelvic floor–seems to reduce the strain of pooping, according to Darren M. Brenner, MD, a professor of gastroenterology and hepatology at Northwestern University Feinberg School of Medicine in Chicago.



Squatty Potty Bamboo Flip $40

To accommodate different user and toilet heights, this bamboo version can be rotated to be either 7 or 9 inches in height.

FOR EVEN MORE COMFORT

A TALLER TOILET

Glacier Bay Beck GBTO103 Dual Flush Elongated (17-in. height) $240

Unlike standard bowls, with rims 14 to 15 inches off the floor, most "comfort height" toilets are 17 to 19 inches high, so it's easier to get on and off the throne.

A BIDET ATTACHMENT

Luxe Bidet Neo 120 $40

A low-cost way to cleanse your nether parts with water, this Neo bidet connects to your existing toilet seat, doesn't need to be plugged in (it's mechanical), and has water-pressure control.

SOFTER T.P.

white cloud
ultra 3

White Cloud Ultra 3 Ply

$28 for 24 rolls

While we don't currently test toilet paper, we evaluated popular brands a few years ago and found that White Cloud toilet paper was softer than offerings from Cottonelle, Scott, and other big brands.

ILLUSTRATION: JASON SCHNEIDER. PHOTOS: MANUFACTURERS (2); SCOTT MEADOWS/CONSUMER REPORTS (TOILET PAPER)

RECALLS

TO STAY INFORMED ABOUT RECALLS FOR YOUR VEHICLES, READERS WITH MEMBERSHIP CAN USE OUR FREE CAR RECALL TRACKER AT **CR.ORG/MORE**.

TOYOTA TACOMA PICKUP TRUCKS

Toyota is recalling 381,199 2022-2023 Tacoma pickup trucks because of a potential problem with the rear axle. Welding debris on the ends of the rear axle assembly could cause retaining nuts to loosen over time and fall off. If this happens, parts could separate from the axle, which could affect vehicle stability and braking, and may lead to a crash.
What to do: Toyota dealerships will inspect the rear axle assembly and retighten the nuts at no charge. If necessary, dealerships will also repair and replace any damaged parts. Owners may call Toyota at 800-331-4331. The NHTSA campaign number for this recall is 24V-152, and Toyota's recall number is 24TB05/24TA05.

MAZDA CX-90 SUVs

Mazda is recalling 43,752 2024 CX-90 SUVs because an issue with a gear in the steering system may result in a sudden loss of power steering assist. The automaker advises that a "sudden increase of effort when steering the vehicle" may increase the risk of a crash.
What to do: Dealers will replace the spring engaging the gear and reapply grease to the gear teeth, free of charge. Call Mazda customer service at 800-222-5500. Mazda's number for this recall is 6524A, and the NHTSA campaign number is 24V-022.

HOME DESIGN BEDS

Home Design is recalling about 527,177 Upholstered Low Profile Standard and Platform beds because they can break, sag, or collapse during use, posing fall and injury hazards. The beds were sold at overstock.com, walmart.com, and Wayfair from July 2018 through November 2023 for $100 to $300.
What to do: Stop using the bed. Call Home Design at 833-383-2967 or go to homedesign-us.com for details and to get free replacement parts. You must send an image of the bed and the law label (on the back of the headboard), or proof of purchase, to homedesign-us.com/recall.

BISSELL VACUUM CLEANERS

Bissell is recalling about 142,000 Multi Reach Hand and Floor vacuum cleaners because the battery pack can overheat and smoke, posing a fire hazard. The vacuums were sold at Kohl's, Lowe's, Macy's, Target, Walmart, and other stores nationwide and online at Amazon, bissell.com, hsn.com, and other online sellers from August 2016 through December 2022 for $110 to $270.
What to do: Stop using the vacuum. Call Bissell at 855-417-7001 or go to bissell.com for details and for instructions on how to deplete the charge on the battery and receive a free replacement vacuum. Recalled lithium-ion batteries should be disposed of in accordance with any local and state laws and not in the trash.

PIXY CAMERA BATTERIES

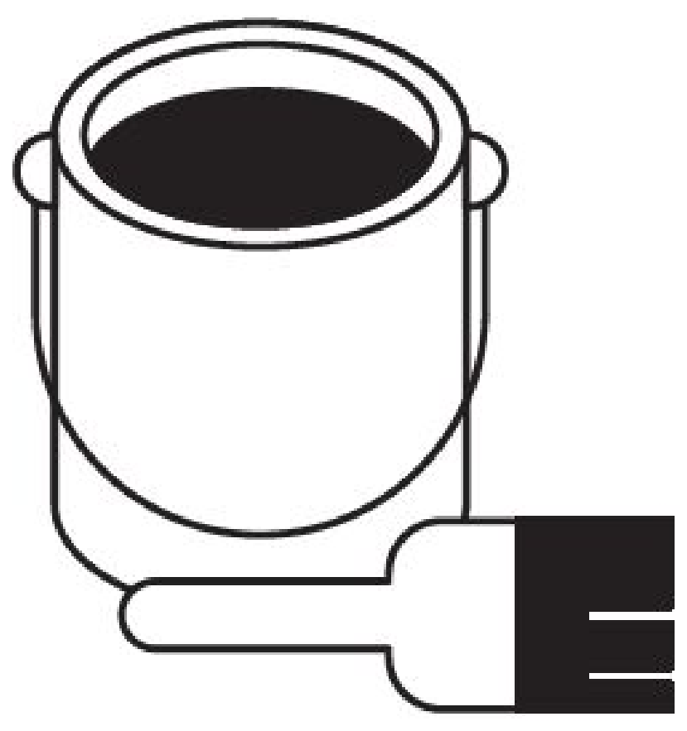
Snap is recalling about 71,000 lithium-ion batteries sold for Pixy Flying Cameras because the battery can overheat, posing a fire hazard. The cameras were sold online at Amazon and pixy.com from May 2022 through December 2023 for $185 to $250 for the camera; the batteries were also sold in a "Flight Pack" bundle for $40 and $50, and sold separately for $16 and $20.
What to do: Stop using the camera and remove the battery. Do not charge the battery. Contact Snap at 800-269-6990 or go to pixy.com for instructions on how to receive a refund and dispose of the battery properly. The camera and other Pixy accessories are also separately eligible for a refund.

HOMEDICS MASSAGERS

Homedics is recalling about 46,000 Therapist Select Percussion Personal Massagers because the massagers can overheat while charging, posing fire and burn hazards. They were sold at BJ's Wholesale Club, Home Depot, and other stores and online at Amazon, bjs.com, homedepot.com, homedics.com, lowes.com, and macys.com from September 2020 through November 2023 for about $100.
What to do: Stop using the massager. Call Homedics at 800-466-3342 or go to homedics.com for instructions to receive a full refund or for credit toward any Homedics product, including a 20 percent bonus.

BEST TIME TO BUY ...

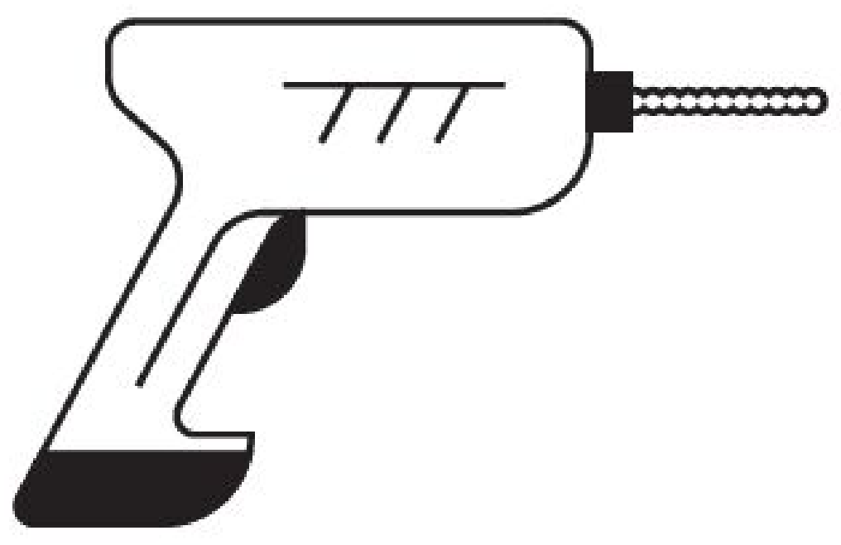
IN MAY



INTERIOR PAINTS

FITNESS TRACKERS

IN JUNE



CORDLESS DRILLS

INSECT REPELLENTS

For more info, go to *CR.org/buy*.

ICONS: RODRIGO DAMANTI

PRODUCT UPDATE

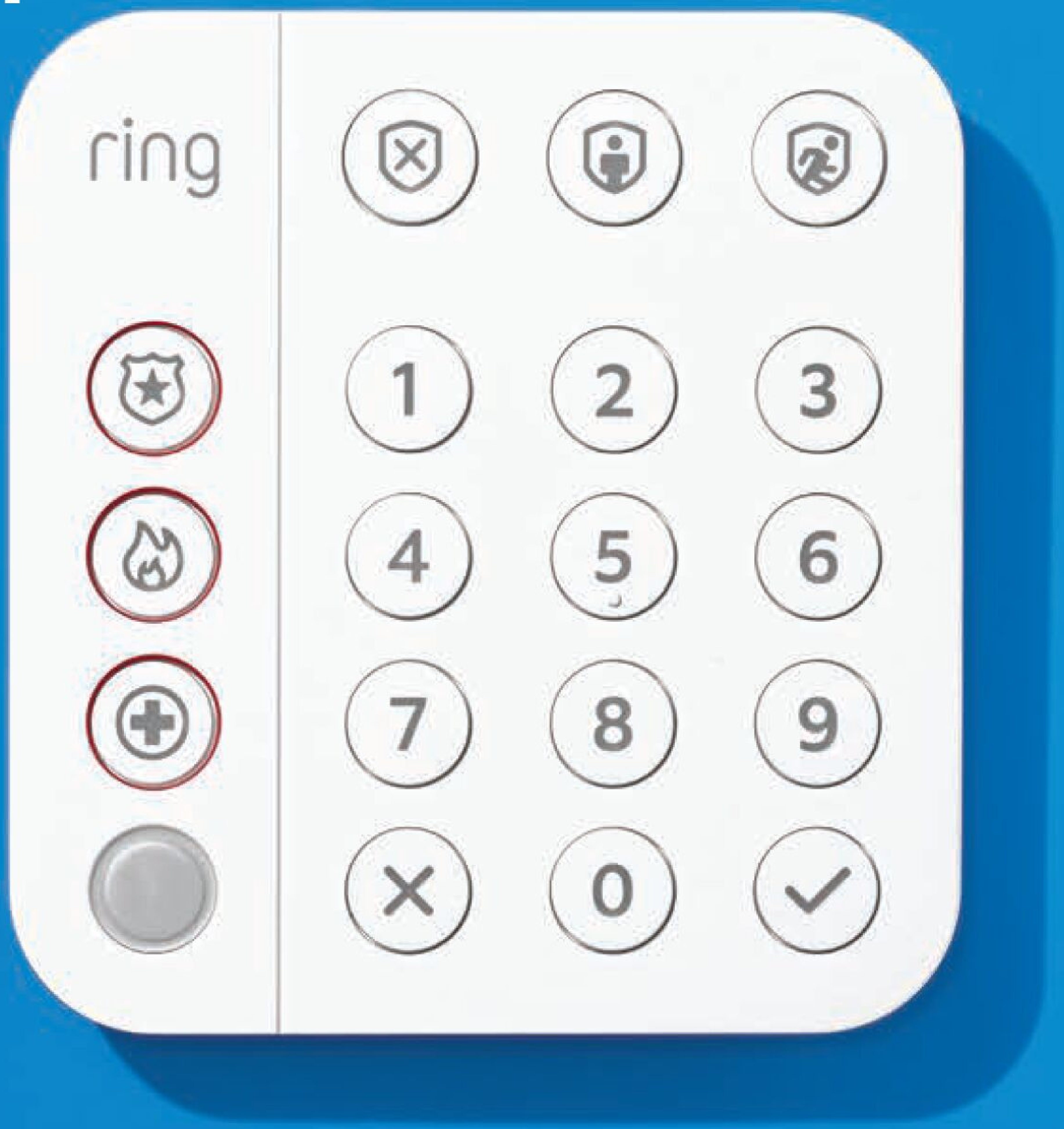
THE LATEST RATINGS FROM OUR LABS

Your Home Security Toolkit

From locks and video doorbells to whole-house security systems, we've got the best products to protect your place.

by Daniel Wroclawski

2



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1 DOORBELL CAMERA

✓ ARLO VIDEO DOORBELL (AVD4001-100NAS) $110

84 OVERALL SCORE

2 HOME SECURITY SYSTEM

✓ RING ALARM PRO B08HSTJPMS $280

79 OVERALL SCORE

3 DOOR LOCK

✓ KWIKSET JUNO 991J15SMTCP $50

80 OVERALL SCORE

PHOTOGRAPH BY GREGORY REID

OUR HOMES ARE USUALLY where we feel safest, and that's why it's so important to keep them secure. A burglary robs you not only of your possessions but also your comfort and stability.

But there's good news on this front. Conventional burglaries—people breaking into homes to steal valuables—have dropped by 70 percent since the late 1980s, according to the Federal Bureau of Investigation. Hundreds of thousands of these crimes still occur each year, however, and they have been joined by a rising tide of package thefts from front porches—an act now known as "porch piracy."

To combat burglaries, both in front of your door and inside, you need the right home security gear.

A strong door lock is the critical starting point, whether you live in an apartment, a townhouse, or a house widely separated from your neighbors.

A video doorbell camera is a great addition for almost everyone, but it's especially important if your home opens onto the street, whether you have neighbors nearby or not.

And, finally, security professionals also recommend a home security system, whether you live in a freestanding house with easy access to ground-level windows or way up in a high-rise apartment.

"Having a security system is no longer a luxury, and everyone should have a level of personal home security, including apartment dwellers," says Kirk MacDowell, president of MacGuard Security Advisors, an industry consulting group.

"Large apartment complexes may have a roving security officer or a doorman, which is a good thing, but those people need to take breaks, may become distracted, or miss warning signs of a criminal," he says.

Investing in a home security system can be expensive, but you can recoup part of that price by applying for a discount on your homeowners insurance. And keep in mind that in addition to guarding against break-ins, these systems can respond in case of medical emergencies, fires, and floods.

Choosing the Right Lock

The first step in home security is to install a good deadbolt on your front door. The type of lock can vary based on your preferences.

Deadbolts that excel in our labs, such as the Bowley Grade 2 Lock ($150), have proved that they can withstand lock-picking (yes, like in the movies), being opened by a criminal equipped with a cordless drill, or simply getting kicked in. Quality varies widely, and you can't tell how secure a lock is by just looking at it or even by buying one from a reputable brand. The same company may sell both excellent and low-quality products. (To see our test results, check the ratings, starting on page 25.)

The locks we all grew up with open with a key, but there are good reasons to consider buying an electronic lock that has a keypad, which you open using a PIN. (Many of these locks let you use a key as well.)

You can give the PIN to family members as well as routine visitors like dog walkers and housekeepers. It's much safer than leaving a key under the doormat.

A number of locks with keypads, such as the highly rated Yale Assure Lock 2 YRD450-WF1-BSP ($260), let you lock and unlock a door remotely from an app. Let's say you're out running errands and can't remember if you locked up. The app will tell you.

These smart locks are also great for letting in visitors such as a plumber or cleaning service while you're away. The app will keep time-stamped logs of who comes and goes, so you can see exactly when they finished up and left.

That's the basic idea behind smart locks, but there are several more variations that you might find useful. Locks such as the Kwikset Halo Touch 959 CNT FPTR WIFI 15 ($270) offer fingerprint scanners for

eufy
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SMART LOCK

✓ **EUFY SMART LOCK TOUCH & WIFI S230** $180 **85** OVERALL SCORE

This model connects directly to your home WiFi network and scores well for ease of remote access.

PHOTO, PREVIOUS PAGE: PROP STYLING BY WENDY SCHELAH

unlocking the door, a handy feature if you tend to forget PINs.

Some newer locks, such as the Schlage Encode Plus WiFi BE499WB-CAM 619 ($300), let you unlock a door with the tap of an Apple Watch or iPhone, the same way you can pay for things in stores.

Finally, there's a way to get the benefits of a smart lock without replacing all your hardware. Retrofit models, such as the August WiFi Smart Lock AUG-SL05-K02-S01 ($200), replace your existing deadbolt's interior thumb-turn knob, while the rest of your lock remains unchanged. The lock can now be controlled through an app, but you can continue using your existing keys when you want to.

You can install a new deadbolt yourself if you don't want to hire a locksmith. One piece of advice, though: Use 3-inch screws to install the box strike plate, where the deadbolt enters the door frame, instead of the shorter screws included in most packages. That will strengthen your lock against kick-ins.

Adding Video Doorbells and Cameras

Video doorbells are security cameras combined with an intercom and an old-fashioned doorbell with a button for visitors to press.

They're a great way to see who comes and goes, as well as catch thieves in the act so you can attempt to stop them—say, by yelling at them through the doorbell's two-way intercom or by calling the police. They can also provide valuable video evidence if your home is burglarized.

Security benefits aside, video doorbells are simply handy to own. They serve as the digital equivalent of a doorman, allowing you to greet visitors when you're in a distant part of the house or not home at all, give instructions for package deliveries, and even take messages like an answering machine. These devices have caught on quickly since being introduced around 10 years ago. Thirty percent of Americans now have one in their homes, according to a nationally representative survey of 2,070 adults conducted by Consumer Reports in November 2023. That number has doubled from 15 percent in early 2020, according to a previous CR survey.

Some video doorbells have color night vision to help you identify people approaching your home more easily. Many models, like the TP-Link Kasa Smart KD110 ($40), also let you set up customizable monitoring zones. That means you can receive alerts when there's motion in some spots (like your walkway) but not others (such as a busy street in front of your house).

A growing number of doorbells can also tell the difference between people, packages, vehicles, and animals. They can then send you only important alerts. For example, you might want to hear about a person in your driveway at midnight but skip an alert about an

PHOTOS, THIS SPREAD AND FOLLOWING PAGE: MANUFACTURERS; CONSUMER REPORTS

1 2 3
4 5 6
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✓ 0

eufy
SECURITY

ELECTRONIC LOCK

✓ **KWIKSET SMARTCODE 915 TRL** $180 **80** OVERALL SCORE

This electronic deadbolt can be installed with just a screwdriver, and it earns stellar scores for resisting kick-ins and lock picks. It's not as secure against a thief with a drill, though.

DOORBELL CAMERAS

✓ **RING GEN 2 2020** $100 **71** OVERALL SCORE

The Ring Gen 2 2020 offers higher-quality video and better data security than most models. It also sends notifications to your phone quickly.

✓ **EUFY VIDEO DOORBELL (WIRED) S330** $180 **74** OVERALL SCORE

This video doorbell has two cameras, one pointed outward to spot visitors to your home and the other pointed down to keep an eye on packages.

animal (which might just be that pesky raccoon on the prowl again).

Here are two more details to consider. First, all video doorbells can record video, but they store it either on a microSD card (like the one you might have in a digital camera) or online. If you choose a doorbell with online storage, you'll need to pay an ongoing fee. For example, the highly rated SimpliSafe Doorbell Pro SS3 ($170) has a subscription fee of $10 per month.

Second, consider the power source for your video doorbell. Only about half of Americans have low-voltage doorbell wiring in their homes, according to CR's 2023 survey. If your home includes this wiring, you have the option of buying a hardwired video doorbell. Doing that means you'll never have to worry about recharging batteries. It's not difficult for handy homeowners to install one of these. But you can also hire an electrician to do the job.

The other option is a battery-powered video doorbell. These can be mounted anywhere. They're helpful if your home doesn't have doorbell wiring or if the existing wiring is in a spot that won't give the camera a great view. You can usually charge the batteries with a USB cable. A handful of battery-powered doorbells can also be connected to small solar panels, available as accessories, that slowly charge the devices.

You can boost your security by adding additional external cameras that can see parts of your property not visible from the doorbell. A very promising new version is the floodlight camera, which comes with two bright lights. They're especially useful if you're worried about car theft because most of them have loud sirens you can set off manually to scare away thieves.

Floodlight cameras such as the highly rated Google Nest Cam with Floodlight (see below) are best suited for wide-open areas outside your home, including driveways, patios, and yards. Installing them high up over these areas, such as in roof peaks, will give you the best view. Many floodlight cameras are hardwired for power to replace existing floodlights, but there are also some plug-in, battery, and solar-powered options on the market.

Like video doorbells and other home security cameras, these devices record and store video either in the cloud as part of a subscription service or locally on a microSD card. These cameras can also differentiate between objects like people, packages, vehicles, and animals.

Picking a Home Security System

Home security systems have sensors to monitor the doors and windows of your home, detecting motion and the sound of glass breaking. They can be connected to professional monitoring services, which will dispatch the police in the event of a burglary.

FLOODLIGHT CAMS

✓ **GOOGLE NEST CAM WITH FLOODLIGHT** $250 — **79** OVERALL SCORE

Rich with smart features, this model is unique in offering free object detection for people, animals, and vehicles.

✓ **BLINK WIRED FLOODLIGHT CAM** $90 — **78** OVERALL SCORE

The Blink floodlight camera has fewer smart features than some other options, but it excels in video quality and response time. Features include a siren.

✓ **ARLO PRO 3 FLOODLIGHT** $250 — **65** OVERALL SCORE

This camera gives you a choice of power supplies. It runs off a rechargeable battery or a 25-foot cord (sold separately for $50).

WORSE — BETTER

✓ CR RECOMMENDED

But that's not all. Most systems also work with smoke and carbon monoxide detectors. Some systems, such as the highly rated Abode Iota All-In-One Kit ($300), even let you summon help in a medical emergency.

Each system operates slightly differently but in general, you push a wireless panic button to summon the police to your home and have a dispatcher call you. (With medical alert systems, a dispatcher will send medics if they can't reach you.)

The biggest question to ask when shopping for a home security system is whether you want one that you install yourself or a system where professionals come in to do the setup.

Choosing a DIY system doesn't mean you're on your own. A number of companies that sell them give you the option of paying for professional monitoring, just like those that come into your home to install the hardware. For the highly rated Ring Alarm Pro system, which you install on your own, professional monitoring costs $20 per month or $200 per year. You can skip that and monitor the system yourself through a mobile app for $5 per month or $50 per year. (Some companies let you do your own monitoring free of charge.)

If you decide to install your own system, you simply place peel-and-stick sensors near windows and doors. They run on batteries, so there's no need to mess with electrical wiring. Next, you connect the sensors to your home WiFi network via the system's base station. Depending on how comfortable you are with technology, that can be somewhat trickier.

If you're a renter, these do-it-yourself systems tend to be your only option because they don't require wiring or drilling into walls.

If you opt for a system with professional installation, you'll typically be required to sign up for monitoring services, often with a multiyear contract. For example, the ADT Pro-Install Starter system includes installation with the cost of the equipment. Without sales promotions, the equipment costs about $780 up front or $13 a month over five years. The required ADT monitoring service costs $35 a month and locks you into a three-year contract.

Regardless of whether you or a pro install the system, the monitoring fee will typically cover cellular backup services to keep it running in the event of a power or internet outage. Many companies charge a single fee for all cellular backup and monitoring services, which can include monitoring for fires, carbon monoxide, water leaks, and even medical emergencies. Some also offer plans that include cloud video storage for their video doorbells and home security cameras.

One perk of a home security system: It might get you a discount on your insurance. Kirk MacDowell, the security consultant, says you can expect a savings of 10 to 18 percent for homeowners insurance and 12 to 15 percent for renters insurance.

Many companies will want you to have professional monitoring, though, so check first to see if your insurer offers a discount with a self-monitored system.

kangaroo
home
SimpliSafe

HOME SECURITY SYSTEMS

✓ KANGAROO FRONT DOOR SECURITY KIT $180

75 OVERALL SCORE

The low-priced Kangaroo system lets you operate sensors one by one. If all you want to do is monitor a single door, you can buy just one motion and entry sensor.

✓ SIMPLISAFE THE ESSENTIALS SS3-01 $220

76 OVERALL SCORE

This system receives high ratings across the board, except for its less-than-ideal score on data privacy. (That shortcoming is common among the systems we've tested.)

Ratings › **Total Lock** You want a door lock that can withstand a kick-in, a drill bit, and picking tools. For smart locks, we also evaluate a wide range of digital features, including connectivity and convenience.

	Brand + Model	Overall Score	Price	Test Results Kick-in as sold	Kick-in reinforced	Drilling	Picking
	HIGH-SECURITY DOOR LOCKS						
✓	**Medeco** Maxum 11TR503-19	96	$250	⇈	⇈	⇈	⇈
✓	**Medeco** Maxum 11*603	96	$220	⇈	⇈	⇈	⇈
$	**Bowley** Grade 2 Lock	94	$150	⇈	⇈	⇈	⇈
	STANDARD DOOR LOCKS						
✓	**Kwikset** Juno 991J15SMTCP	80	$50	⇈	⇈	⇊	⇈
$	**Kwikset** 980	80	$40	⇈	⇈	⇊	⇈
✓	**Schlage** B660p	75	$150	⇈	⇈	⇊	❘
✓	**Falcon** D241	75	$50	⇈	⇈	⇊	❘
✓	**Schlage** B560 P626	73	$85	⇈	⇈	↓	❘
	ELECTRONIC DOOR LOCKS						
✓	**Kwikset** SmartCode 915 TRL	80	$180	⇈	⇈	⇊	⇈
	Schlage BE365 V CAM 619	52	$120	↑	⇈	⇊	❘

	Brand + Model	Overall Score	Price	Test Results Kick-in as sold	Kick-in reinforced	Drilling	Picking	Ease of remote access	Convenience	Security add-ons	Connectivity	Features Keyless lock	Voice control	Electronic keys	Access log	Auto lock	Auto unlock
	WIFI-CAPABLE SMART LOCKS (USE WIFI OR WIRELESS ADAPTER TO CONNECT TO THE INTERNET)																
✓	**Kwikset** Obsidian 954OBNZW500	89	$250	⇈	⇈	⇈	⇈	↑	↓	❘	↑	●	●		●		
✓	**Yale** Assure YRD256-CBA-619	89	$250	⇈	⇈	↑	⇈	⇈	⇈	↑	↑	●	●	●	●	●	●
✓	**Eufy** Smart Lock Touch & WiFi S230	85	$180	⇈	⇈	❘	⇈	⇈	❘	❘	⇈		●		●	●	
✓	**Yale** Assure Lock 2 YRD450-WF1-BSP	84	$260	↑	⇈	⇈	⇈	⇈	↑	⇈	⇈	●	●	●	●	●	
✓	**Eufy** Smart Lock C110	82	$260	↑	⇈	⇈	⇈	⇈	↑	↑	⇈		●	●	●	●	
✓	**Kwikset** Halo Touch 959 CNT FPTR WIFI 15	80	$270	⇈	⇈	⇊	⇈	⇈	↑	❘	↑		●	●	●		●
✓	**Kwikset** Premis 919TRL 15 SMT	79	$200	⇈	⇈	⇊	⇈	↑	⇈	↑	↑		●	●	●	●	
✓	**Schlage** Encode Plus WiFi BE499WB-CAM 619	78	$300	↑	⇈	⇈	❘	⇈	⇈	↑	❘		●	●	●	●	
✓	**Schlage** Encode WiFi BE489WB-CAM-619	76	$250	⇈	⇈	⇊	❘	⇈	⇈	↑	⇈		●	●	●	●	
✓	**Kwikset** Halo 939WiFiTSCR	76	$230	↑	⇈	↓	⇈	⇈	↑	❘	↑		●	●	●	●	

⇊ ↓ ❘ ↑ ⇈
WORSE — BETTER

✓ **CR** RECOMMENDED

$ **CR** SMART BUY

	Brand + Model	Overall Score	Price	Test Results								Features					
				Kick-in as sold	Kick-in reinforced	Drilling	Picking	Ease of remote access	Convenience	Security add-ons	Connectivity	Keyless lock	Voice control	Electronic keys	Access log	Auto lock	Auto unlock
	WIFI-CAPABLE SMART LOCKS (USE WIFI OR WIRELESS ADAPTER TO CONNECT TO THE INTERNET) *Continued*																
$	**Kwikset** SmartCode 888 ZW500	75	$120	⇈	⇈	⇊	⇈	↑	!	↓	↑		●		●	●	
✓	**Kwikset** 916 SmartCode Contemporary 916CNT ZW500	74	$210	⇈	⇈	⇊	⇈	↑	↓	↓	↑		●		●		
✓	**Schlage** Connect BE469NXCAM619	73	$200	⇈	⇈	⇊	!	↑	↑	↑	!		●	●	●	●	
✓	**Schlage** Sense Smart BE479CEN619	72	$230	⇈	⇈	⇊	!	↑	↑	!	↑		●	●	●	●	
✓	**Google Nest** x Yale Lock RB-YRD540-WV	72	$280	↓	⇈	⇈	⇈	↑	⇈	↑	!	●		●	●	●	
	Kwikset 925 KEVO 2DB 15	61	$200	!	⇈	⇊	⇈	↑	↑	↓	↓		●	●	●	●	
	BLUETOOTH-ONLY SMART LOCKS (CONTROL DIRECTLY VIA SMARTPHONE WHEN CLOSE BY)																
	Eufy Smart Lock E130	81	$150	⇈	⇈	!	⇈	!	↑	↑	⇈			●	●	●	
	Kwikset Aura 942 BLE	68	$150	↑	⇈	↓	⇈	!	!	↓	↑			●	●	●	
	Wyze Lock Bolt	49	$80	⇊	↑	↑	⇈	!	↑	!	⇈			●	●	●	
	IglooHome 2S Smart Metal Gray Deadbolt IGB4	46	$200	↓	⇈	⇊	⇈	↓	!	↓	⇈			●	●	●	
	IglooHome Deadbolt 2S	37	$250	⇊	↑	⇊	⇈	↓	!	↓	⇈	●		●	●	●	
	MiLocks MIEQ-OBSNHB	23	$200	⇊	↑	!	⇊	!	!	↓	↑			●	●		
	MiLocks BLEF-02SN	15	$90	⇊	!	⇊	⇊	↓	↓	⇊	⇈			●	●		
	RETROFIT SMART LOCKS																
✓	**August** WiFi Smart Lock AUG-SL05-K02-S01	88	$200					⇈	⇈	↑	⇈		●	●	●	●	●
✓	**August** WiFi Smart Lock AUG SL05-M01-G01	86	$250					⇈	⇈	↑	⇈		●	●	●	●	●
✓	**Eufy** Retrofit Smart Lock E110	85	$110					↑	⇈	⇈	↑		●	●		●	●
✓	**Eufy** Retrofit Smart Lock E130	83	$110					↑	⇈	⇈	↑		●	●		●	●
✓	**August** Smart Lock Pro AUG-SL-CON	82	$230					⇈	⇈	↑	⇈		●	●	●	●	●
✓	**Wyze** Lock WLCKG1	82	$110					↑	⇈	⇈	↑		●	●		●	●
✓	**Friday Home** Friday Labs FLSS	75	$185					⇈	⇈	↓	⇈		●	●	●	●	●
✓	**August** Smart Lock AUG-SL04-M01-S04	74	$130					↑	⇈	↑	⇈		●	●	●	●	●
	Shepherd Smart Lock	65	$310					!	↑	⇈	⇈			●	●	●	
	Danalock V3	63	$250					↑	⇈	↓	⇈		●	●	●	●	●

› Digital and All Access members can find the latest, complete ratings at **CR.org/doorlocks.**

HOW WE TEST: All door locks, other than retrofit smart locks, undergo tests for **kick-ins as sold**, **kick-ins reinforced** with a box strike plate, **drilling**, and **picking**. For smart locks, including retrofit models, we evaluate features for **ease of remote access** and **convenience**. We also look for **security add-ons**, such as door open/close sensors and tamper alarms. Smart locks also undergo **connectivity** tests to assess ease of setup and connecting to other smart devices.

Ratings › **Ringing Endorsement** Video quality and smart features are important considerations in choosing a video doorbell. The best models rate well for data security and privacy, too.

Brand + Model	Overall Score	Price	Test Results					Features					
			Video quality	Data security	Data privacy	Response time	Smart IQ	Claimed resolution	Color night vision	Plays recorded voice message when not answered	Battery-powered (rechargeable)	Hardwired for power	Monitoring zones
VIDEO DOORBELLS													
✓ **Arlo** Video Doorbell (AVD4001-100NAS)	84	$110	↑	⇈	↓	⇈	⇈	1944 x 1944			●	●	●
✓ **Logitech** Circle View Doorbell 961-000484	81	$200	↑	⇈	↓	⇈	○	1200 x 1600	●			●	●
✓ **SimpliSafe** Doorbell Pro SS3	77	$170	⇈	↑	↑	⇊	⇊	1080p				●	●
✓ **Ring** Video Doorbell 3	74	$180	⇈	↑	○	↓	○	1080p			●	Opt.	●
✓ **Eufy** Video Doorbell (Wired) S330	74	$180	↑	↑	○	⇈	○	2560 x 1920				●	●
✓ **Lorex** LNWDB1 1080P WiFi	74	$90	↑	↑	○	↑	○	1080p				●	●
✓ **Lorex** 2K QHD B451AJD-E	73	$150	↑	↑	○	↑	○	2560 x 1920	●			●	●
✓ **Arlo** Video Doorbell (AVD3001-100NAS)	73	$80	○	⇈	○	⇈	⇈	1536 x 1536			●	●	●
✓ **Netatmo** Smart Video Doorbell	73	$290	↑	↑	○	↓	○	1080 HD				●	●
✓ **Aqara** G4 SVD-KIT1	72	$120	↑	↑	↓	⇈	↑	1080p		●	●	●	●
✓ **Ecobee** Smart doorbell camera	71	$140	○	↑	○	⇈	○	1080p				●	●
✓ **Eufy** Video Doorbell (Wired) S220	71	$100	○	○	○	⇈	○	2560 x 1920				●	●
✓ **Arlo** Essential Video Doorbell (Wire-free) AVD2001-100NAS	71	$80	↑	⇈	↓	↑	○	1536 x 1536		●	●	Opt.	●
✓ **Ring** Gen 2 2020	71	$100	↑	↑	↓	↑	○	1080p			●	●	●
✓ **Ring** Doorbell Plus (Battery)	70	$180	○	↑	○	⇈	○	1536p	●	●	●	●	●
✓ **Google Nest** Doorbell (Wired)	70	$230	↑	↑	○	⇈	↓	1080p				●	
✓ **Eufy** Video Doorbell E340	69	$180	○	↑	○	⇈	○	2k	●	●	●	●	●
✓ **Eufy** Video Doorbell C210	68	$100	↑	○	○	⇈	○	1080p			●		●
✓ **TP-Link** Kasa Smart KD110	68	$40	○	↑	↓	⇈	○	2304 x 1296p			●	●	●
✓ **Cree Lighting** Connected Smart CMACC-DRBL-HWBAT-WH	68	$85	↑	↑	↓	⇈	○	1080p			●	●	
✓ **Energizer** Connect Video Doorbell	67	$60	↑	↑	↓	⇈	○	1080p				●	●
✓ **Eufy** T8200	66	$100	↑	○	↓	↑	↑	2K HD				●	●
✓ **Aosu** Doorbell Camera Wireless	66	$100	↑	↓	↓	⇈	○	5MP			●	●	●
✓ **Ring** Doorbell 4	66	$200	○	↑	↓	⇈	○	1080p		●	●	●	●
✓ **Ring** Doorbell Wired	65	$65	↑	↑	↓	↓	↓	1080 HD				●	●
✓ **Bazz** WFDBELL1	65	$70	↑	↑	↓	⇈	⇊	1080p			●		
✓ **Roku** Video Doorbell & Chime DS1000R	65	$80	○	○	↓	⇈	⇈	1080p				●	●

› Digital and All Access members can find the latest, complete ratings at CR.org/videodoorbells.

HOW WE TEST: Video quality reflects image clarity, color accuracy, and contrast in varied light. **Data security** looks at authentication, encryption, and software updates. **Data privacy** is a measure of how device and service providers collect, share, and use your personal info. **Response time** measures time span from button press to live view. **Smart IQ** rates smart feature performance and selection.

⇊ ↓ ○ ↑ ⇈
WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

Produce With

20%

of the 59 fruits and vegetables in our ratings posed a high risk from pesticides.

out Pesticides

Some of our favorite fruits and vegetables carry unhealthy levels of chemicals. CR's exclusive ratings reveal how to get the benefits from these foods while minimizing your risk.

BY
CATHERINE
ROBERTS

PHOTOGRAPHS
BY SARAH
ANNE WARD

WHEN IT COMES TO HEALTHY EATING, fruits and vegetables reign supreme. But along with all their vitamins, minerals, and other nutrients can come something else: an unhealthy dose of dangerous pesticides.

Though using chemicals to control bugs, fungi, and weeds helps farmers grow the food we need, it's been clear since at least the 1960s that some chemicals also carry unacceptable health risks. And although certain notorious pesticides, such as DDT, have been banned in the U.S., government regulators have been slow to act on others. Even when a dangerous chemical is removed from the market, chemical companies and growers sometimes just start using other options that may be as dangerous.

Consumer Reports, which has tracked the use of pesticides on produce for decades, has seen this pattern repeat itself over and over. "It's two steps forward and one step back—and sometimes even two steps back," says James E. Rogers, PhD, who oversees food safety at CR.

To get a sense of the current situation, CR recently conducted our most comprehensive review ever of pesticides in food. To do it, we analyzed seven years of data from the Department of Agriculture, which each year tests a selection of conventional and organic produce grown in or imported to the U.S. for pesticide residues. We looked at 59 common fruits and vegetables, including, in some cases, not just fresh versions but also canned, dried, or frozen ones.

Our new results continue to raise red flags. Pesticides posed significant risks in 20 percent of the foods we examined, including popular choices such as bell peppers, blueberries, green beans, potatoes, and strawberries. One food, green beans, had residues of a pesticide that hasn't been allowed to be used on the vegetable in the U.S. for over a decade. And imported produce, especially some from Mexico, was particularly likely to carry risky levels of pesticide residues.

But there was good news, too. Pesticides presented little to worry about in nearly two-thirds of the foods, including nearly all of the organic ones. Also encouraging: The largest risks are caused by just a few pesticides, concentrated in a handful of foods, grown on a small fraction of U.S. farmland. "That makes it easier to identify the problems and develop targeted solutions," Rogers says—though he acknowledges that it will take time and effort to get the Environmental Protection Agency, which regulates the use of pesticides on crops, to make the necessary changes.

In the meantime, our analysis offers insights into simple steps you can take to limit exposure to harmful pesticides, such as using our ratings to identify which fruits and vegetables to focus on in your diet, and when buying organic can make the most sense.

WHAT'S SAFER, WHAT'S RISKY, AND WHY

Sixteen of the 25 fruits and 21 of the 34 vegetables in our analysis had low levels of pesticide risk. Even children and pregnant people can safely eat more than three servings a day of those foods, CR's food safety experts say. Ten foods were of moderate risk; up to three servings a day of them are okay.

The flip side: 12 foods presented bigger concerns. Children and pregnant people should consume less than a serving a day of high-risk fruits and vegetables, and less than half a serving per day of very high-risk ones. Everyone else should limit consumption of those foods, too.

To come up with that advice, we analyzed the USDA's test results for 29,643 individual food samples. We rated the risk of each fruit or vegetable by factoring in how many pesticides showed up in the food, how often they were found, the amount of each pesticide detected, and each chemical's toxicity.

The Alliance for Food and Farming, a farming industry organization, pointed out to CR that more than 99 percent of foods tested by the USDA contained pesticide residues below the EPA's legal limits (referred to as tolerances).

But CR's scientists think many EPA tolerances are set too high. That's why we use lower limits for pesticides that can harm the body's neurological system or are suspected

How Pesticides Can Harm You

Pesticides are one of the only categories of chemicals we manufacture "specifically to kill organisms," says Chensheng (Alex) Lu, PhD, an affiliate professor at the University of Washington in Seattle who researches the health effects of pesticide exposure. So it's no surprise, he says, that pesticides used to manage insects, fungi, and weeds may harm people, too.

While there are still open questions about exactly how and to what extent chronic exposure to pesticides can harm our health, scientists are piecing together a compelling case that some can, drawing on a mix of laboratory, animal, and human research.

One type of evidence comes from population studies looking at health outcomes in people who eat foods with relatively high pesticide levels. A recent review in the journal Environmental Health, which looked at six such studies, found evidence linking pesticides to increased risks of cancer, diabetes, and cardiovascular disease.

Stronger evidence of pesticides' dangers comes from research looking at people who may be particularly vulnerable to pesticides, including farmworkers and their families. In addition to the thousands of workers who become ill from pesticide poisonings every year, studies have linked on-the-job use of a variety of pesticides with a higher risk of Parkinson's disease, breast cancer, diabetes, and many more health problems.

Other research found that exposure during pregnancy to a common class of pesticides called organophosphates was associated with poorer intellectual development and reduced lung function in the children of farmworkers.

Pregnancy and childhood are times of particular vulnerability to pesticides, in part because certain pesticides can be endocrine disruptors. Those are chemicals that interfere with hormones responsible for the development of a variety of the body's systems, especially reproductive systems, says Tracey Woodruff, PhD, a professor of environmental health sciences at the University of California San Francisco.

Another concern is that long-term exposure to even small amounts of pesticides may be especially harmful to people with chronic health problems, those who live in areas where they are exposed to many other toxins, and people who face other social or economic health stresses, says Jennifer Sass, PhD, a senior scientist at the Natural Resources Defense Council.

That's one of the reasons, she says, regulators should employ extra safety margins when setting pesticide limits—to account for all the uncertainty in how pesticides might harm us.

endocrine disruptors (meaning they may mimic or interfere with the body's hormones). CR's approach also accounts for the possibility that other health risks may emerge as we learn more about these chemicals.

"The way the EPA assesses pesticide risk doesn't reflect cutting-edge science and can't account for all the ways the chemicals might affect people's health, especially given that people are often exposed to multiple pesticides at a time," says CR senior scientist Michael Hansen, PhD. "So we take a precautionary approach, to make sure we don't underestimate risks."

In our analysis, a fruit or vegetable can contain several pesticides but still be considered low-risk if the combination of the number, concentration, and toxicity of them is low. For example, broccoli fared well not because it had no pesticide residues but because higher-risk chemicals were at low levels and on just a few samples.

Some of the most problematic foods, on the other hand, had relatively few residues but worrisome levels of some high-risk pesticides.

Case in point: watermelon. It's very high-risk mainly because of a pesticide called oxamyl. Only 11 of 331 conventional, domestic watermelon samples tested positive for oxamyl. But it's among those that CR's experts believe require extra caution because of their potential for serious health risks.

Green beans are another example. They qualify as high-risk primarily because of a pesticide called acephate or one of its breakdown products, methamidophos. Only 4 percent of conventional, domestic green bean samples were positive for one

PROP STYLING BY SOPHIA PAPPAS

ILLUSTRATIONS BY ISRAEL VARGAS

or both—but their pesticide levels were often alarmingly high. In one sample from 2022 (the most recent year for which data was available), methamidophos levels were more than 100 times the level CR's scientists consider safe; in another, acephate levels were 7 times higher. And in some 2021 samples, levels were higher still.

This is especially troubling because neither chemical should be on green beans at all: Growers in the U.S. have been prohibited from applying acephate to green beans since 2011, and methamidophos to all food since 2009.

"When you grab a handful of green beans at the supermarket or pick out a watermelon, your chance of getting one with risky pesticide levels may be relatively low," Rogers says. "But if you do, you could get a much higher dose than you should, and if you eat the food often, the chances increase."

In some cases a food qualifies as high-risk because of several factors, such as high levels of a moderately dangerous pesticide on many samples. Example: chlorpropham on potatoes. It's not the most toxic pesticide—but it was on more than 90 percent of tested potatoes.

Some green beans were contaminated with acephate, a pesticide that's been banned for use on the vegetable since 2011.

Problem Produce

Blueberries

Why they're a problem: One in 5 samples of domestic, conventional blueberries had residue of phosmet, a pesticide that the EPA considers a particular risk to children. It's an organophosphate (OP), a class of chemicals responsible for much of the risk in many high-risk foods in our analysis.

Key takeaway: Conventional frozen blueberries also posed a very high risk. Several years of USDA data suggests that contamination with phosmet may be increasing, as growers use it as an alternative to other even more harmful pesticides.

Better choice: We don't have data for raspberries or blackberries, but organic blueberries did well and fresh domestic strawberries fared okay.

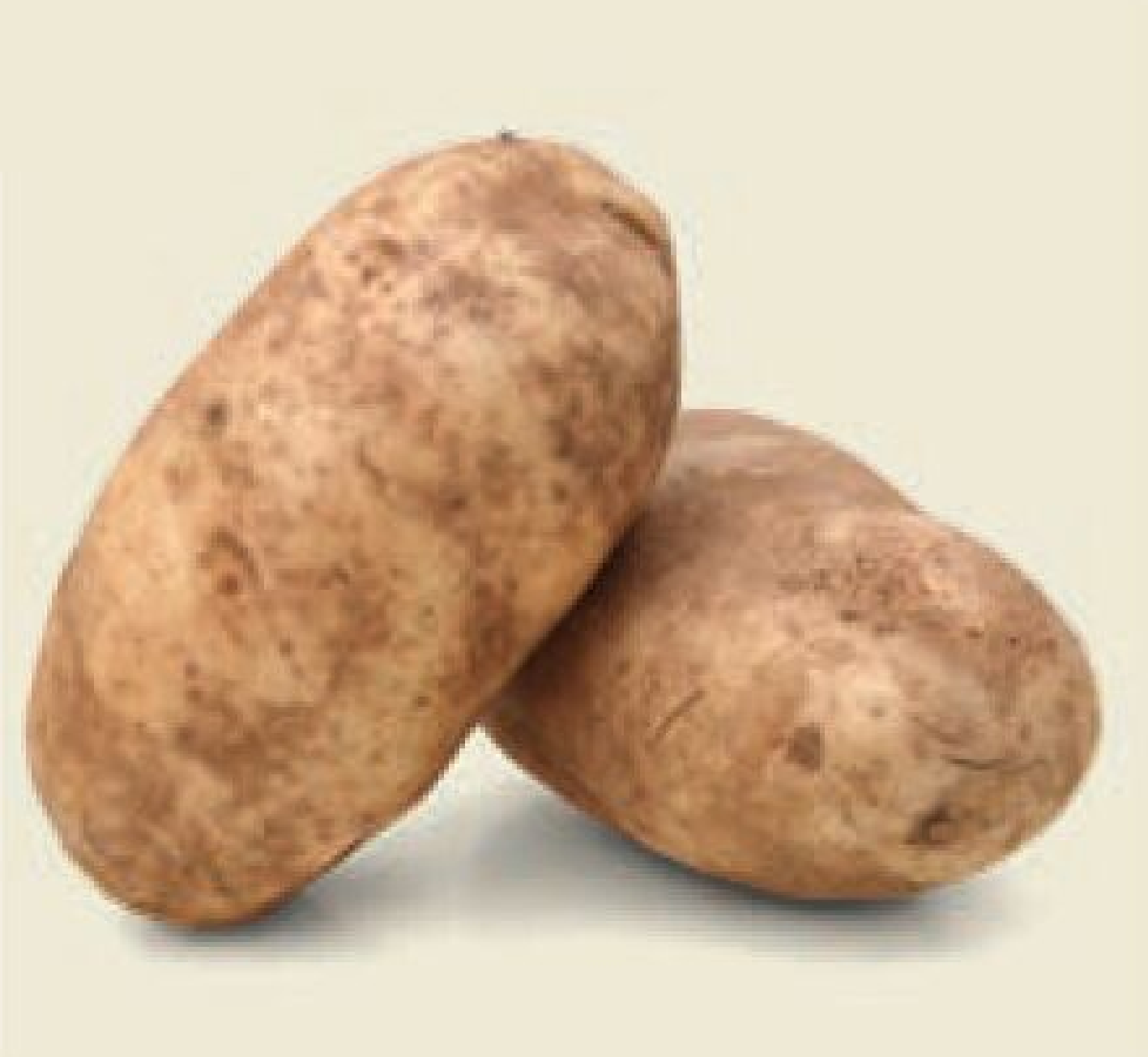
Pesticides pose a serious risk in conventionally grown versions of the produce shown below. Here's why these fruits and vegetables are so problematic, plus how to safely fit them into your diet or make smart substitutions.

Bell peppers

Why they're a problem: Close to half of all domestic, conventional samples of this vegetable tested positive for oxamyl or its breakdown product, oxamyl oxime.

Key takeaway: Oxamyl is a carbamate, another class of chemicals that, with OPs, accounts for most of the risk among high-risk or very high-risk foods in CR's analysis.

Better choice: Opting for organic is likely the best choice here, or consuming these foods sparingly. Note that in our ratings hot peppers also posed a high risk.



Potatoes

Why they're a problem: Nearly all domestic, conventional samples had residue of chlorpropham, a carbamate pesticide. Organic potatoes were moderate risk, because of contamination with the same pesticide, likely in processing plants.

Key takeaway: While not the riskiest pesticide, chlorpropham was found on nearly all samples. That's likely because it's typically sprayed on potatoes just before they are bagged, to keep them from sprouting. Organic potatoes may be inadvertently contaminated when they are processed in the same facility as conventional ones.

Better choice: Sweet potatoes. They posed a low risk, and are a nutritional powerhouse to boot.

Green beans

Why they're a problem: Only about 4 percent of domestic, conventional samples had residue of the OP acephate or a related chemical, methamidophos, but risk levels were often very high. Acephate has been banned by the EPA for use on green beans since 2011.

Key takeaway: Acephate levels were particularly high in imported green beans, mostly from Mexico. Even imported organic green beans were very high-risk, the only organic food with that rating. Its detection on samples suggests illegal use and inadequate oversight of imports.

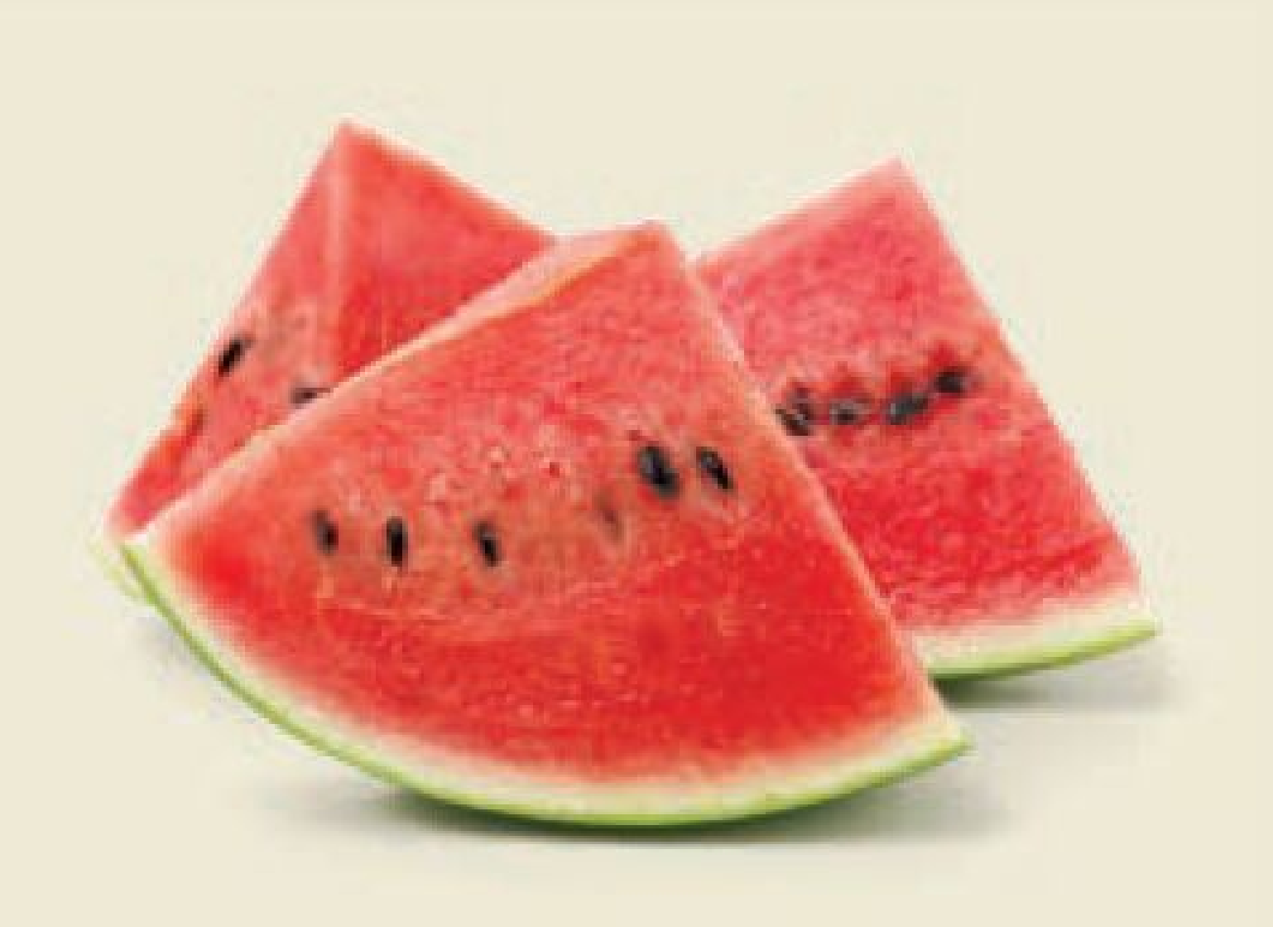
Better choice: Snap peas. They posed a low risk, and have a similar crunch and texture. Organic green beans grown domestically are also a good choice.

Kale and mustard greens

Why they're a problem: Domestic, conventional versions of these greens sometimes contained a mix of pesticides: pyraclostrobin, a fungicide; cyfluthrin, a pyrethroid pesticide (these have been linked to cardiovascular disease-related deaths); and chlorpyrifos, a highly toxic OP, in a relatively small number of samples, especially mustard greens.

Key takeaway: The EPA has banned chlorpyrifos for use inside homes since 2000, but it is still used on some crops.

Better choice: Organic kale and mustard greens. Broccoli also posed a very low risk and has similar nutritional benefits. Fresh spinach was of moderate risk, making it a better choice too. Lettuce was low-risk.



Watermelons

Why they're a problem: Only about 3 percent of domestic, conventional samples tested positive for oxamyl, the same pesticide as in bell peppers, but again, the levels are far above what CR's experts consider safe.

Key takeaway: USDA testers wash all produce before testing, and measure pesticide levels on the edible portion of a fruit or vegetable. So in this case, the pesticides are not just on the rind of the watermelon.

Better choice: Organic watermelon. Cantaloupe is also a good option, because it posed a very low risk.

PHOTOS, SIDEBAR: GETTY IMAGES (5); SHUTTERSTOCK (POTATOES)

CR'S TEST RESULTS

How to Use These Ratings
Fruits and vegetables are listed alphabetically, showing the risk from pesticides in their conventional and organic forms, as well as when they are grown domestically or imported. Risk levels correspond to the number of servings a 35-pound child (about the size of a 4-year-old) could safely consume each day, and are based on a pesticide's chronic toxicity. Serving sizes represent a child's portion, about two-thirds of an adult's serving. While adults can have more servings, the differences in risk levels remain the same. When deciding on the conventional fruits and vegetables to buy, CR recommends those rated as very low, low, or moderate risk. When possible, replace a food rated high or very high with a lower-risk one, or choose organic. Keep in mind that the risk comes from repeated servings over time. If you usually choose produce with the best ratings, you can reduce the chance of future harm. A blank space means we did not have residue data for that food.

fruits

	conventional		organic	
Serving Size	**U.S. Grown**	**Imported**	**U.S. Grown**	**Imported**
Applesauce ⅓ cup	🟩	🟩	🟩	🟩
Apples ½ large	🟨	🟢	🟩	☒
Bananas 1 small	☒	🟩	☒	🟩
Blueberries ⅔ cup	🟥	🟧	🟩	🟩
Blueberries frozen, ⅔ cup	🟥	🟥	☒	🟩
Cantaloupe ⅔ cup, diced	🟩	🟢	☒	☒
Cranberries ⅓ cup	🟩	🟩	🟩	☒
Cranberries canned or sauce, 3 Tbsp.	🟩	☒	🟢	☒
Cranberries frozen, ⅓ cup	🟩	🟢	☒	🟩
Grapefruit ⅓ large	🟩	🟩	🟩	☒
Grapes ⅔ cup	🟨	🟨	🟩	🟩
Kiwifruit ½ cup, sliced	🟢	🟩	☒	☒
Mangoes ½ cup, pieces	🟢	🟩	🟩	🟩
Oranges ⅔ medium	🟩	🟩	☒	☒
Peaches ⅔ medium	🟨	🟨	🟩	☒
Peaches canned, ⅔ cup	🟩	🟩	☒	☒
Peaches frozen, ¼ cup	🟩	🟩	🟩	☒
Pears ⅔ medium	🟨	🟨	🟩	☒
Plums 1½ medium	🟩	🟢	🟩	☒
Plums dried (Prunes), 3 prunes	🟩	🟩	🟩	🟩
Raisins 3 Tbsp.	🟩	🟩	🟩	🟩
Strawberries 8 medium	🟨	🟥	🟩	☒
Strawberries frozen, 5 medium	🟧	🟥	🟩	🟢
Tangerines ⅔ large	🟢	🟩	☒	☒
Watermelon 1⅓ cups diced	🟧	🟨	☒	🟩

vegetables

	conventional		organic	
Serving Size	**U.S. Grown**	**Imported**	**U.S. Grown**	**Imported**
Asparagus 3 spears	🟢	🟩	🟩	☒
Basil 1 Tbsp., chopped	🟢	🟨	🟩	🟩
Bell peppers ⅔ cup, sliced	🟥	🟧	☒	🟢
Broccoli ⅔ cup, chopped	🟩	🟢	🟩	🟩
Cabbage ⅔ cup, chopped	🟩	🟩	☒	☒
Carrots ⅓ cup, chopped	🟩	🟩	🟩	☒
Cauliflower ½ cup, ½-inch pieces	🟩	🟨	🟩	☒
Celery ⅔ cup, chopped	🟨	🟥	🟩	🟩
Cilantro 3 Tbsp., chopped	🟩	🟩	🟩	☒
Collard greens 1½ cups, chopped	🟨	🟥	🟩	☒
Cucumbers ½ cup, sliced	🟢	🟨	🟩	🟩
Eggplant ⅔ cup, cubed	🟢	🟢	🟩	🟩
Green beans ⅔ cup, ½-inch pieces	🟧	🟥	🟩	🟥
Hot peppers 2 Tbsp., chopped	🟧	🟧	🟢	☒
Kale 3 cups, chopped	🟧	🟧	🟢	🟨
Lettuce 1 cup, shredded	🟢	🟢	🟩	☒
Mushrooms ⅔ cup, sliced	🟩	🟩	🟩	☒

	conventional		organic	
Serving Size	**U.S. Grown**	**Imported**	**U.S. Grown**	**Imported**
Mustard greens 1 cup, chopped	🟧	🟢	🟢	☒
Olives canned, 3 olives	🟩	🟩	☒	☒
Onion ⅓ cup, chopped	🟩	🟩	🟩	☒
Peas (sweet) canned, ⅓ cup	🟩	☒	☒	☒
Peas (sweet) frozen, ½ cup	🟩	🟩	🟩	☒
Potatoes ½ cup, diced	🟥	🟥	🟨	☒
Radishes ½ cup, sliced	🟨	🟢	🟩	☒
Scallions (green onions), 3 Tbsp., chopped	🟩	🟩	🟩	🟩
Snap peas 17 pods	🟢	🟨	🟩	🟢
Spinach 2 cups	🟨	🟨	🟨	🟩
Spinach canned, ⅓ cup	🟧	☒	☒	☒
Spinach frozen, ⅓ cup	🟧	🟢	🟩	🟩
Summer squash ½ cup, chopped	🟢	🟢	🟩	☒
Sweet potatoes ½ cup, cubed	🟢	☒	🟩	☒
Tomatoes ½ cup, chopped	🟨	🟢	☒	🟩
Tomatoes canned, ⅓ cup, diced	🟩	🟢	🟩	🟩
Winter squash ½ cup, cubed	🟢	🟩	🟩	🟩

Key to Risk Level

VERY LOW	LOW	MODERATE	HIGH	VERY HIGH
🟩	🟢	🟨	🟧	🟥
Okay to eat more than 10 servings a day	Okay to eat up to 10 servings a day	Okay to eat up to 3 servings a day	Okay to eat up to 1 serving a day	Okay to eat up to ½ serving a day

HOW WE RATE FRUITS AND VEGETABLES FOR PESTICIDES: Our ratings are of common fruits and vegetables included in the USDA's Pesticide Data Program within the last seven years. The ratings are based on: the number of pesticides detected on each sample, the frequency with which pesticides were found on them, the average amount of residue of each pesticide found on the items, and the toxicity of those pesticides. To account for toxicity, we start with the EPA's chronic reference dose for each pesticide (the amount the agency considers not likely to cause harm over a lifetime). For certain pesticides that CR's experts consider particularly high risk, we apply a stricter safety standard than the EPA's. For details, go to **CR.org/pesticidemethodology.**

HOW TO STOP EATING PESTICIDES

While our analysis of USDA pesticide data found that some foods still have worrisome levels of certain dangerous pesticides, it also offers insights into how you can limit your pesticide exposure now, and what government regulators should do to fix the problem in the long term.

Eat lots of low-risk produce

A quick scan of the chart on pages 34 and 35 makes one thing clear: There are lots of good options to choose from.

"That's great," says Amy Keating, a registered dietitian at CR. "You can eat a variety of healthy fruits and vegetables without stressing too much about pesticide risk, provided you take some simple steps at home." (See "Pesticide Watch: What Works, What Doesn't," on page 39.)

Your best bet is to choose produce rated low-risk or very low-risk in our analysis and, when possible, opt for organic instead for riskier foods you enjoy. Or swap in lower-risk alternatives for riskier ones. For example, try snap peas instead of green beans, cantaloupe in place of watermelon, cabbage or dark green lettuces for kale, and the occasional sweet potato instead of a white one.

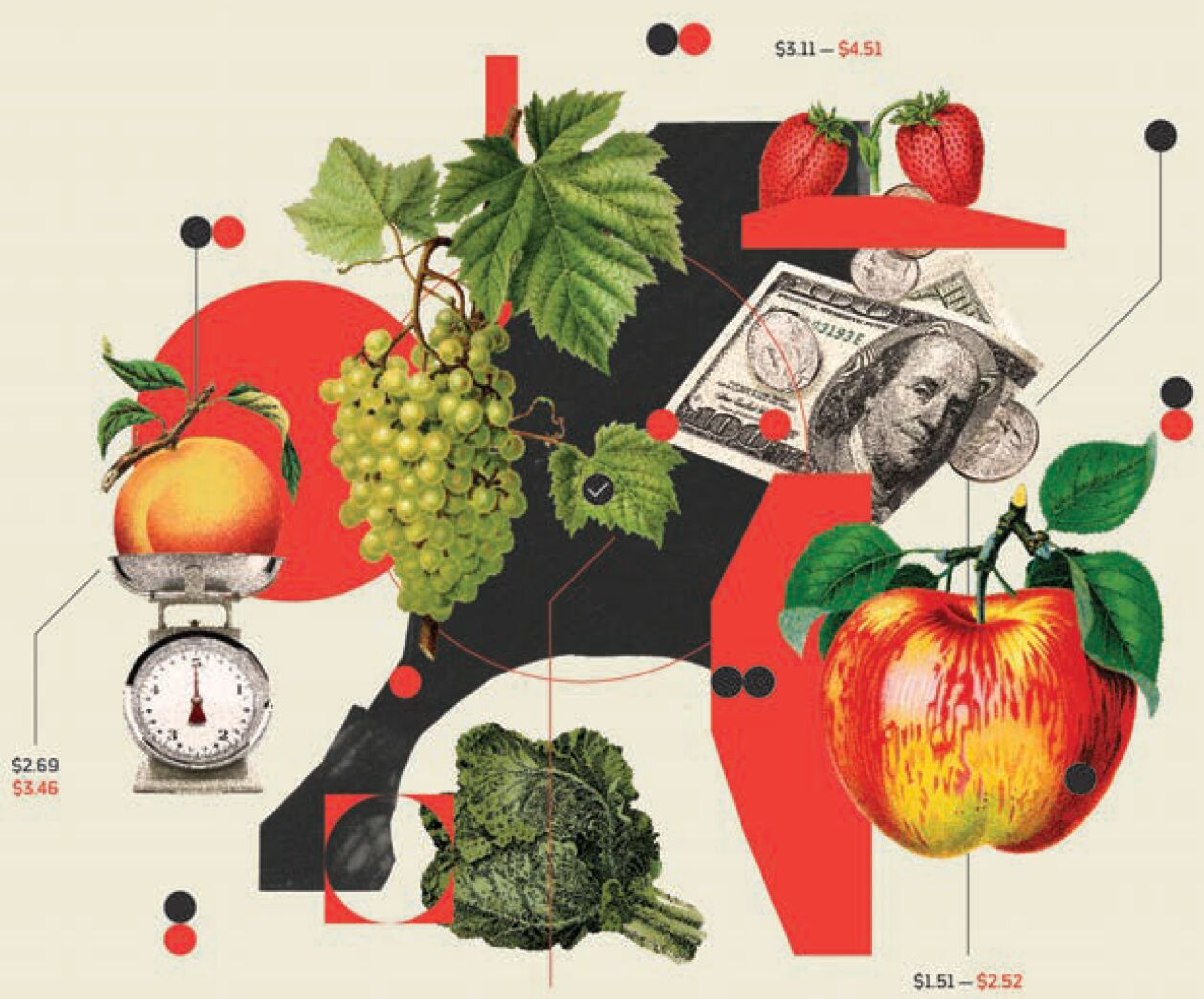
But you don't need to eliminate higher-risk foods from your diet. Eating them occasionally is fine. "The harm, even from the most problematic produce, comes from exposure during vulnerable times such as pregnancy or early childhood, or from repeated exposure over years," Rogers says.

Switch to organic when possible

A proven way to reduce pesticide exposure is to eat organic fruits and vegetables, especially for the highest-risk foods. We had information about organically grown versions for 45 of the 59 foods in our analysis. Nearly all had low or very low pesticide risk, and only two domestically grown varieties—fresh spinach and potatoes—posed even a moderate risk.

Organic foods' low-risk ratings indicate that the USDA's organic certification program, for the most part, is working.

Pesticides aren't totally prohibited on organic farms, but they are sharply



Save on Organic Produce

Organic fruits and vegetables cost more (sometimes a lot more) because of differences in production and handling. You can limit the added expense by buying organic when it matters most: That is, when you're shopping for food with a high or very high pesticide risk.

Even then, the cost of switching to organic can be steep. For example, organic apples and green beans cost around 67 percent more, on average, than their conventionally grown forms, according to recent data from the Department of Agriculture. These strategies can help you save money.

restricted. Organic growers may use pesticides only if other practices—such as crop rotation—can't fully address a pest problem. Even then, farmers can apply only low-risk pesticides derived from natural mineral or biological sources that have been approved by the USDA's National Organic Program.

Less pesticide on food means less in our bodies: Multiple studies have shown that switching to an organic diet quickly reduces dietary exposures. Organic farming protects health in other ways, too, especially of farmworkers and rural residents, because pesticides are less likely to drift into the areas where they live or to contaminate drinking water.

And organic farming protects other living organisms, many of which are even more vulnerable to pesticides than we are. For example, organic growers can't use a class of insecticides called neonicotinoids, a group of chemicals that may cause developmental problems in young children—and is clearly hazardous to aquatic life, birds, and important pollinators including honeybees, wild bees, and butterflies.

The rub, of course, is price: Organic food tends to cost more—sometimes much more (see chart, below).

"That's why, while we think it's always worth considering organic produce, it's most important for the handful of fruits and vegetables that pose the greatest pesticide risk," Rogers says. He also says that opting for organic is most crucial for young children and during pregnancy, when people are extra vulnerable to the potential harms of the chemicals.

Watch out for some imports

Overall, imported fruits and vegetables and those grown domestically are pretty comparable, with roughly an equal number of them posing a moderate or worse pesticide risk. But imports, particularly from Mexico, can be especially risky.

Seven imported foods in our analysis pose a very high risk, compared with just four domestic ones. And of the 100 individual fruit or vegetable samples in our analysis with the highest pesticide risk levels, 65 were imported. Most of those—52—came from Mexico, and the majority involved strawberries (usually frozen) or green beans (nearly all contaminated with acephate, the pesticide that's prohibited for use on green beans headed to the U.S.).

A spokesperson for the Food and Drug Administration told CR that the agency is aware of the problem of acephate contamination on green beans from Mexico. Between 2017 and 2024, the agency has issued import alerts on 14 Mexican companies because of acephate found on green beans. These alerts allow the FDA to detain the firms' food shipments until they can prove the foods are not contaminated with the illegal pesticide residues in question.

The Fresh Produce Association of the Americas, which represents

1.
Keep an eye out for sales

Prices for organic produce can vary substantially from week to week and store to store.

2.
Check the weight

When organic produce is sold prepackaged at a set price rather than by the pound, take the time to weigh a few packages: Some may contain more (or less) than others.

3.
Buy in bulk

As long as you'll actually use all of the food, choosing a larger package size—buying potatoes in a 5-pound bag instead of by the pound, for example—or quantity can save you money.

4.
Look in the freezer case

Frozen organic vegetables may be cheaper than fresh, and the nutritional quality is the same.

PRICE OF FRESH CONVENTIONAL VS. ORGANIC PRODUCE

🟥 CONVENTIONAL 🟩 ORGANIC

fruits

	CONVENTIONAL	ORGANIC
Apples LB.	$1.51	$2.52
Blueberries PINT	$3.56	$3.82
Grapes LB.	$2.63	$3.42
Peaches LB.	$2.69	$3.46
Pears LB.	$1.76	$2.13
Strawberries LB.	$3.11	$4.51
Watermelon LB.	$0.71	$1.00

vegetables

	CONVENTIONAL	ORGANIC
Bell peppers LB.	$2.67	$3.97
Celery BUNCH	$2.22	$2.67
Collard greens BUNCH	$1.81	$2.48
Green beans LB.	$1.86	$3.13
Kale BUNCH	$1.62	$2.21
Potatoes LB.	$1.12	$1.51
Radishes BUNCH	$0.94	$1.57
Spinach BUNCH	$1.18	$1.70
Tomatoes LB.	$1.78	$2.79

Source: Average prices from the USDA Agricultural Marketing Service retail pricing reports from March 2023 through February 2024.

many major importers of fruits and vegetables from Mexico, did not respond to a request for comment.

Rogers, at CR, says "clearly, the safeguards aren't working as they are supposed to." As a result, "consumers are being exposed to much higher levels of very dangerous pesticides than they should." Because of those risks, he suggests checking packaging on green beans and strawberries for the country of origin, and consider other sources, including organic.

Support CR's initiatives

Perhaps the most reassuring, and powerful, part of CR's analysis is that it demonstrates that the risks of pesticides are concentrated in just a handful of foods and pesticides.

Of the nearly 30,000 total fruit and vegetable samples CR looked at, just 2,400, or about 8 percent, qualified as high-risk or very high-risk. And among those samples, just two broad classes of chemicals, organophosphates and a similar type of pesticide called carbamates, were responsible for most of the risk.

"That not only means that most of the produce Americans consume has low levels of pesticide risk, but it makes trying to solve the problem much more manageable, by letting regulators and growers know exactly what they need to concentrate on," says Brian Ronholm, head of food policy at CR.

Organophosphates and carbamates became popular after DDT and related pesticides were phased out in the 1970s and 1980s. But concerns about these pesticides soon followed. While the EPA has removed a handful of them from the market and lowered limits on some foods for a few others, many organophosphates and carbamates are still used on fruits and vegetables.

Take, for instance, phosmet, an organophosphate that is the main culprit behind blueberries' poor score. Until recently, phosmet rarely appeared among the most concerning samples of pesticide-contaminated food. But in recent years, it's become a main contributor of pesticide risk in some fruits and vegetables, according to our analysis.

"That's happened in part because when a high-risk pesticide is banned or pushed off the market, some farmers switch to a similar one still

CR's analysis has identified several ways that the EPA, FDA, and USDA could better protect our food from toxic pesticides.

on the market that too often ends up posing comparable or even greater harm," says Charles Benbrook, PhD, an independent expert on pesticide use and regulation, who consulted with CR on our pesticide analysis.

CR's food safety experts say our current analysis has identified several ways the EPA, FDA, and USDA could better protect consumers.

That includes doing a more effective job of working with agricultural agencies in other countries and inspecting imported food, especially from Mexico, and conducting and supporting research to more fully elucidate the risks of pesticides. In addition, the government should provide more support to organic farmers and invest more federal dollars to expand the supply of organic food–which would, in turn, lower prices for consumers.

But one of the most effective, and simple, steps the EPA could take to reduce overall pesticide risk would be to ban the use of any organophosphate or carbamate on food crops.

The EPA told CR that "each chemical is individually evaluated based on its toxicity and exposure profile," and that the agency has required extra safety measures for several organophosphates.

But CR's Ronholm says that approach is insufficient. "We've seen time and again that doesn't work. Industry and farmers simply hop over to another related chemical that may pose similar risks."

Canceling two whole classes of pesticides may sound extreme. "But the vast majority of fruits and vegetables eaten in the U.S. are already grown without hazardous pesticides," Ronholm says. "We just don't need them. And the foods American consumers eat every day would be much, much safer without them."

Scan this QR code to sign CR's petition urging the EPA to crack down on toxic pesticides in our produce.

PESTICIDE WATCH:

What Works, What Doesn't

To avoid pesticides, consult the charts on pages 34 and 35 to see which fruits and vegetables pose the least risk, and consider buying organic for those that pose the most. Below are answers to common questions about what other steps you can take.

Q. Does washing remove pesticide residues?

Yes, some—but not all. Note that when the Department of Agriculture tests a food for pesticides, it first washes and, in some cases, peels the food as a consumer would. So properly wash produce before you eat it raw or you cook it. (Cooking may eliminate some pesticides, but washing produce is still crucial.) That means running produce under cold water for 15 to 20 seconds. For heads of lettuce or other greens, turn them upside down after washing to drain. Use a soft brush to scrub the outside skin of items like apples, carrots, and potatoes.

Q. What about special washes or rinses?

There's no need for anything other than water. There's little evidence that soaps or special rinses wash away pesticide residues. And the USDA doesn't use detergents or bleaches on any food it tests.

Q. Does peeling or not eating skins help?

For items that aren't always peeled but can be—like apples, potatoes, and carrots—peeling likely removes some residues, but not all. That's because some pesticides are systemic, meaning they're absorbed into the plant. Peeling can have a downside, too, because the skins contribute healthy fiber and other nutrients, says Amy Keating, a registered dietitian at CR, so if you like eating them, don't get rid of them just to avoid pesticides.

Q. Are canned or frozen versions better or worse?

It could go either way, according to our analysis. Canned tomatoes, for example, received a better score than fresh in our ratings, but frozen strawberries posed a higher risk than fresh. So we can't reliably say that one form is safer than others, when it comes to pesticides. But our ratings can, in some cases, help identify which pose a lower risk.

Q. Is "pesticide-free" the same as organic?

That claim is increasingly seen on some packaged produce, but it doesn't mean that something is organic—for that, you need to look for the USDA Organic label. And "pesticide-free" isn't a regulated term, so you can't be sure exactly what it's telling you. On the other hand, you can have confidence that items with the USDA Organic label were grown according to national standards and with only minimum levels of pesticides, if any.

Q. Is produce sold at farmers markets safer?

Maybe, but locally grown doesn't necessarily mean organic. It can't hurt to talk to the person selling the food about their farming practices, but a USDA Organic certification is the best guarantee.

BEST TVs
FROM OUR TESTS

✓ **LG OLED65G3PUA TV**
$2,600
87 OVERALL SCORE

1
Start With Screen Size

The size of your TV depends on how your room is laid out. You want the set to look big enough from where you're sitting to provide an immersive experience, but not so large that you can't comfortably take in the whole picture.

One general rule: Buy a TV that's about two-thirds the length of your seating distance. So if you're sitting 9 feet (108 inches) from the TV, we'd recommend a 65- or 75-inch set. And feel free to get an even larger TV.

To see how big the set will appear, mark a rectangle on the wall using painter's tape. Screens are measured diagonally, and a 65-inch TV will be about 36 inches tall and 57 inches wide.

Don't be afraid to go big. Many people now buy 75-inch sets, and you can even find TVs in the 98- to 100-inch range. A television that large can really involve you in the action, though it might feel

Choosing the right TV can be daunting, with so many models out there. Follow this guide to find one you'll love.

BY JAMES K. WILLCOX
PHOTOGRAPH BY GREGORY REID

$ **SAMSUNG QN65QN90C TV**
$1,600
81 OVERALL SCORE

overwhelming if you sit too close.

Bigger TVs tend to cost more, but prices have dropped in recent years. You can get a highly rated 65-inch TV for around $1,600, and one with decent performance for $600. We have recommended 75-inch models for as low as $1,000.

2

Pick Your Type

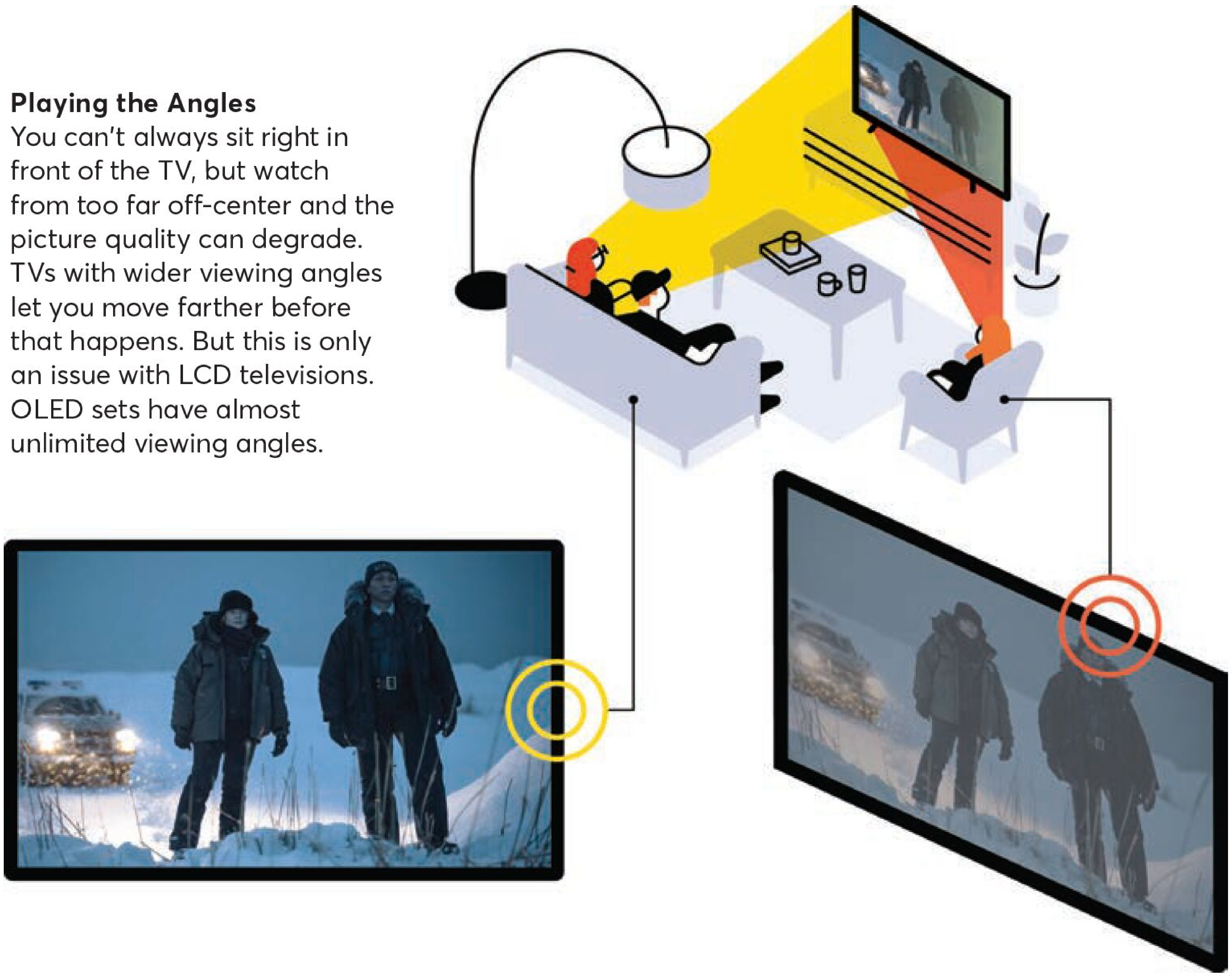
All televisions are either OLEDs or LCDs (sometimes called LEDs). You can get an excellent television of either type. But in some cases, one technology has advantages over the other.

If your TV will be in a bright, sunny room, you'll generally be better off with an LCD set. These TVs tend to have brighter, more glare-resistant screens than OLED models.

But let's say you plan to bring together a number of people for movie night. Many LCD TVs have limited viewing angles, meaning the picture can look washed out for whoever gets the corner of the couch. Some LCDs do better than others, but the problem doesn't arise at all with OLED TVs. No matter where you sit, the picture will be clear and vibrant.

LCDs come in more sizes and prices than OLEDs. The least expensive 65-inch OLED in our ratings costs around $1,300 outside of big sales events. (See "Save Money by Timing Your Purchase," on page 44.)

Playing the Angles
You can't always sit right in front of the TV, but watch from too far off-center and the picture quality can degrade. TVs with wider viewing angles let you move farther before that happens. But this is only an issue with LCD televisions. OLED sets have almost unlimited viewing angles.



3

Focus on Picture Quality

For a main TV in your home, it's best to choose a set that earns high scores for picture quality. (Ratings start on page 45.)

Several attributes go into these scores. For instance, black levels reflect how dark the TV's darkest areas can get. You want the darkest scenes to look, well, black rather than dark gray.

Accurate colors are important too: They should be vivid but not oversaturated, with skin tones that don't look too red or green.

We give a separate score to one aspect of picture quality: HDR, short for high dynamic range. It's now one of the biggest differentiators between high- and low-performing televisions.

HDR videos instruct your TV to increase the range of contrast between the brightest whites and the darkest blacks in the picture. When done well, HDR lets you see more nuance. You'll notice the texture of the brick on a shady walkway or subtle shading in the clouds in a daytime sky. The picture becomes more vibrant and lifelike.

The video you're watching has to include HDR information. You'll notice the effect most in

TV Terms You Should Know

LCD and QLED
All LCD (aka LED) TVs use a backlight that shines through a layer of liquid crystals that act like a shutter, controlling how much light passes through. A filter typically produces the colors. QLED TVs use quantum dots for color instead. (See details at right.)

OLED
Short for organic light-emitting diode, OLED is an "emissive" TV technology, meaning each pixel gives off its own light. Because each individual pixel can go from bright to fully off, OLED TVs can generate high-contrast images with

ILLUSTRATION BY THE TOM AGENCY

movies, animated series, nature documentaries, and some big sports events. Most of the major streaming services, including Amazon Prime Video and Netflix, now use HDR in their original series too.

You generally won't find HDR in broadcast TV, news shows, and more basic cable content.

If you don't watch a lot of streaming content, a TV with so-so HDR can still be a good choice if it does well for overall picture quality. But it still makes sense to choose a set that does decently for HDR, earning at least a yellow mark in our ratings. To experience truly compelling HDR, look for a TV with an even higher score—just be prepared to pay a bit more.

One aspect of the screen you don't have to think about much is the resolution, which influences how much fine detail the TV can display.

Most TVs are 4K sets, with around 8.3 million pixels, or dots, making up the picture. You'll also find 8K televisions, with about 33 million pixels, letting the TV display more detail. We don't suggest them for most people—you'll pay a premium for an 8K set but aren't likely to perceive an improvement over a 4K set.

65-INCH TVs WE LOVE

✓ **SONY**
XR-65A95L
$3,300

Sony's flagship OLED TV is our top-rated 65-inch set, and among the best TVs you can buy.

88
OVERALL SCORE

$ **TCL**
65QM850G
$1,000

This set provides great overall picture quality and impressive HDR at a relatively low price.

71
OVERALL SCORE

HISENSE
65U8K $1,000

This model delivers satisfying picture quality, top-notch HDR, and very good sound.

69
OVERALL SCORE

4

Installing Your New TV

Bringing a new TV home can be exciting, and many of us want to rush to set it up as quickly as possible and start watching.

The fastest way to do that is to use the included stand and place the TV on a credenza. But there are good reasons to mount the TV on a wall instead.

Wall-mounted sets can be a less imposing presence, so a larger TV might look better in your room. That's particularly true now that some new models let you display photos and artwork when you're not watching TV.

TVs mounted on walls are safer too. Each year thousands of people, including children, are injured or killed by furniture that tips over, and many of those incidents involve TVs.

If you do opt to use the stand, make sure that it's on a stable piece of furniture and that the stand isn't too wide for the surface. And secure the television to the wall using a strap designed for this purpose.

To hang your new set on a wall, first check the

truly deep black tones. OLED TVs top our ratings—and are more expensive on average than comparably sized LCD TVs. Newer QD-OLEDs add quantum dots to enhance their color.

Mini LEDs
On an LCD TV, some light tends to bleed through the shutter described at left, compromising black levels and contrast. TVs with Mini LEDs address that problem by including thousands of tiny light sources, which can be turned on and off in small groups. That technology brings these televisions closer to OLEDs in black-level performance.

Quantum Dots
These are nanocrystals that glow when they're hit by a blue light source. Quantum dots can produce bright, very saturated primary colors and are used in many higher-end TVs.

PHOTO, PREVIOUS SPREAD: PROP STYLING BY WENDY SCHELAH. PHOTOS, THIS SPREAD: FLIXPIX/ALAMY STOCK PHOTO (LEFT TV SCREEN); CONSUMER REPORTS (TVS)

maximum weight and screen-size specifications for any TV mount you're considering. It will be listed on the product's box.

Many people will hang a new TV on their own, but it makes sense to consider an installation service, especially for larger sets. Handling a jumbo-sized set is challenging.

Expect to pay $250 or so. That's what Best Buy, for example, charges to mount a TV; connect a few devices, such as a cable box, streaming box, and Blu-ray player; neatly dress the wires; and program the remote control.

5

Don't Forget Audio

Many TVs, even high-end models, produce anemic sound that can't do justice to their picture. For a news program this might be fine, but poor sound can sap some of the drama from movies and TV series, and make it harder to hear dialogue.

You can fix this by adding a soundbar. A basic model that costs less than $100 will sound better than most televisions. A soundbar with rear satellite speakers and a separate wireless subwoofer can create surround sound. Some soundbar models also support Dolby Atmos and DTS:X sound, which add overhead sounds to the surround-sound experience.

GREAT SOUNDBARS AT EVERY PRICE

BUDGET

✓ **Creative Stage V2**
$110

61
OVERALL SCORE

A decent-sounding soundbar for about $100–yes, please. It's a basic model, but it has Bluetooth for streaming music from your phone.

MIDPRICED

✓ **Sonos Ray** $280

65
OVERALL SCORE

This all-in-one model—the least expensive Sonos we've tested—has very good sound. Built-in WiFi lets you stream music, even when the TV is off.

PREMIUM

✓ **Samsung Q930C**
$900

77
OVERALL SCORE

This feature-laden soundbar currently tops our ratings. It supports Dolby Atmos 3D audio, with upfiring drivers for overhead effects.

Get a Perfect Picture
Find the recommended picture settings for any TV in our ratings by using the screen optimizer on the CR website. Scan the QR code using your phone. You will have to provide an email address to access the tool.

Save Money by Timing Your Purchase

A 65-inch TV can cost $1,100 when it first hits the market, drop to $880 a few months later, and cost as little as $650 the following spring, as retailers make room for newer models.

SPRING/SUMMER
New model-year TVs are released at their highest-ever prices.

SUMMER
Prices decline, with small added drops during special retail promotions.

FALL
Prices fall sharply during holiday/Black Friday sales events.

WINTER
Holiday deals are over—but prices on many sets drop again for Super Bowl sales.

NEXT SPRING
Retailers cut prices further on leftover sets to make room for new models.

PHOTOS: MANUFACTURERS

Ratings › **Ready, Set, Watch.** When buying a new TV, start with screen size, then check out picture quality.

70-INCH AND LARGER TVs

Brand + Model	Overall Score	Price	Survey + Test Results				
			Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
$ **Samsung** QN77S89C	87	$1,800	⇈	⇈	⇈	⇈	OLED
$ **Samsung** QN77S90C	87	$2,300	⇈	⇈	⇈	⇈	OLED
✓ **LG** OLED77G3PUA	87	$3,500	⇈	⇈	⇈	⇈	OLED
✓ **LG** OLED77M3PUA	87	$4,500	⇈	⇈	⇈	⇈	OLED
$ **LG** OLED77C3PUA	86	$2,300	⇈	⇈	↑	⇈	OLED
✓ **Samsung** QN77S95C	85	$3,500	⇈	⇈	⇈	⇈	OLED
$ **Sony** XR-77A80L	84	$2,700	⇈	⇈	↑	⇈	OLED
$ **Samsung** QN75QN90C	82	$2,200	⇈	⇈	⇈	↑	LCD (LED)
$ **LG** OLED77B3PUA	81	$1,900	⇈	⇈	❙	⇈	OLED
$ **Sony** XR-75X93L	80	$2,500	⇈	↑	⇈	↑	LCD (LED)
$ **Samsung** QN75QN85C	79	$1,800	⇈	⇈	⇈	↑	LCD (LED)
$ **Samsung** QN75Q80C	77	$1,600	⇈	↑	⇈	↑	LCD (LED)
$ **Sony** XR-75X90L	76	$1,500	⇈	⇈	⇈	↓	LCD (LED)
✓ **Hisense** 85UX	75	$3,500	❙	↑	⇈	↑	LCD (LED)
✓ **Sharp** 4TC75FV1U	74	$2,200	–	⇈	⇈	❙	LCD (LED)
$ **TCL** 75QM850G	74	$900	❙	⇈	⇈	❙	LCD (LED)
$ **Roku** 75R6A5R	72	$900	–	⇈	❙	❙	LCD (LED)
$ **Hisense** 75U8K	70	$1,150	❙	↑	⇈	↑	LCD (LED)
Samsung QN75Q70C	68	$1,000	⇈	↑	❙	↓	LCD (LED)
Samsung QN75Q60C	67	$950	⇈	⇈	❙	❙	LCD (LED)
Samsung UN75CU7000	67	$550	⇈	⇈	⇊	↓	LCD (LED)
Samsung QN70Q60C	66	$900	⇈	↑	↓	↓	LCD (LED)
Hisense 75U7K	66	$900	❙	↑	❙	↑	LCD (LED)
Hisense 75U75K	65	$900	❙	↑	❙	↑	LCD (LED)
LG 75QNED80URA	65	$1,100	⇈	↑	↑	↑	LCD (LED)
Samsung UN70CU7000	65	$550	⇈	↑	⇊	↓	LCD (LED)
LG 75QNED75URA	64	$900	⇈	❙	❙	↑	LCD (LED)
TCL 75Q750G	64	$900	❙	↑	❙	❙	LCD (LED)
Samsung UN75CU8000	63	$800	⇈	↑	↓	❙	LCD (LED)
Sony KD-75X77L	63	$800	⇈	❙	↓	↑	LCD (LED)
LG 75UQ7050ZUD	61	$580	⇈	❙	↓	↑	LCD (LED)
TCL 70S470G	60	$430	❙	↑	⇊	↓	LCD (LED)
Roku 75R4A5R	59	$600	–	↑	↓	↓	LCD (LED)
LG 75UR9000PUA	58	$900	⇈	❙	❙	↑	LCD (LED)
TCL 75S450G	58	$530	❙	↑	↓	↓	LCD (LED)
Hisense 70R6E4	54	$520	❙	↑	⇊	↓	LCD (LED)
Hisense 75A76K	54	$530	❙	❙	⇊	↑	LCD (LED)
Vizio VQP75C-84	50	$900	❙	❙	❙	↑	LCD (LED)
Vizio M75Q6-L4	50	$700	❙	❙	⇊	↑	LCD (LED)

65-INCH TVs

Brand + Model	Overall Score	Price	Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
✓ **Sony** XR-65A95L	88	$3,300	⇈	⇈	⇈	⇈	OLED
✓ **LG** OLED65G3PUA	87	$2,600	⇈	⇈	⇈	⇈	OLED
$ **Samsung** QN65S90C	86	$1,600	⇈	⇈	⇈	⇈	OLED
$ **LG** OLED65C3PUA	86	$1,600	⇈	⇈	↑	⇈	OLED
$ **Sony** XR-65A75L	84	$1,500	⇈	⇈	❙	⇈	OLED
$ **Sony** XR-65A80L	84	$1,700	⇈	⇈	❙	⇈	OLED
✓ **Samsung** QN65S95C	83	$2,300	⇈	⇈	⇈	⇈	OLED
$ **Samsung** QN65QN90C	81	$1,600	⇈	⇈	⇈	↑	LCD (LED)
$ **Samsung** QN65QN85C	81	$1,300	⇈	⇈	⇈	↑	LCD (LED)
$ **LG** OLED65B3PUA	81	$1,300	⇈	⇈	❙	⇈	OLED

⇊ ↓ ❙ ↑ ⇈
WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

	Brand + Model	Overall Score	Price	Survey + Test Results				
				Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
	65-INCH TVs *Continued*							
$	**Sony** XR-65X93L	80	$1,600	⇈	↑	⇈	↑	LCD (LED)
✓	**Samsung** QN65QN800C	78	$2,600	⇈	⇈	⇈	↑	LCD (LED)
$	**Samsung** QN65Q80C	78	$1,100	⇈	↑	⇈	↑	LCD (LED)
$	**Sony** XR-65X90L	76	$1,100	⇈	↑	⇈	↓	LCD (LED)
✓	**Samsung** QN65QN900C	76	$3,000	⇈	⇈	⇈	!	LCD (LED)
✓	**Sharp** 4TC65FS1UR	72	$1,400	–	⇈	↑	⇈	OLED
$	**TCL** 65QM850G	71	$1,000	!	⇈	⇈	!	LCD (LED)
$	**Roku** 65R6A5R	70	$600	–	⇈	!	↓	LCD (LED)
	Hisense 65U8K	69	$1,000	!	↑	⇈	↓	LCD (LED)
	Samsung UN65CU7000	67	$400	⇈	⇈	⇊	↓	LCD (LED)
	LG 65QNED80URA	66	$1,000	⇈	↑	!	↑	LCD (LED)
	Samsung QN65Q70C	65	$800	⇈	↑	!	↓	LCD (LED)
	Samsung QN65Q60C	65	$700	⇈	↑	!	!	LCD (LED)
	Hisense 65U7K	64	$680	!	↑	!	↓	LCD (LED)
	Hisense 65U75K	64	$900	!	↑	!	↓	LCD (LED)
	TCL 65Q750G	63	$700	!	↑	!	!	LCD (LED)
	Hisense 65U6K	60	$550	!	↑	↓	!	LCD (LED)
	Vizio VQP65C-84	60	$700	!	↑	!	↑	LCD (LED)
	Roku 65R4A5R	59	$400	–	↑	↓	↓	LCD (LED)
	LG 65UR9000PUA	59	$580	⇈	!	!	↑	LCD (LED)
	Sony KD-65X77L	59	$600	⇈	!	↓	↑	LCD (LED)
	TCL 65Q670G	58	$500	!	↑	!	!	LCD (LED)
	TCL 65Q650G	58	$500	!	↑	!	!	LCD (LED)
	Hisense 65A65K	58	$350	!	↑	↓	!	LCD (LED)
	65-INCH TVs *Continued*							
	TCL 65S450G	57	$450	!	↑	⇊	↓	LCD (LED)
	TCL 75Q650F	53	$650	!	↑	↓	↓	LCD (LED)
	TCL 65S450F	49	$380	!	↑	⇊	↓	LCD (LED)
	Vizio M65Q6-L4	48	$500	!	!	⇊	↑	LCD (LED)
	Toshiba 65C350LU	48	$380	↑	!	↓	↑	LCD (LED)
	55- TO 60-INCH TVs							
✓	**Sony** XR-55A95L	87	$2,500	⇈	⇈	⇈	⇈	OLED
✓	**LG** OLED55G3PUA	87	$1,800	⇈	⇈	⇈	⇈	OLED
$	**Samsung** QN55S90C	86	$1,500	⇈	⇈	⇈	⇈	OLED
$	**LG** OLED55C3PUA	86	$1,300	⇈	⇈	↑	⇈	OLED
✓	**Sony** XR-55A80L	83	$1,400	⇈	⇈	!	⇈	OLED
✓	**Sony** XR-55A75L	83	$2,000	⇈	⇈	!	⇈	OLED
✓	**Samsung** QN55S95C	82	$1,800	⇈	⇈	⇈	⇈	OLED
$	**Samsung** QN55QN90C	82	$1,300	⇈	⇈	⇈	↑	LCD (LED)
$	**Samsung** QN55QN85C	81	$1,000	⇈	⇈	⇈	↑	LCD (LED)
$	**LG** OLED55B3PUA	81	$1,200	⇈	⇈	!	⇈	OLED
$	**Samsung** QN55Q80C	76	$1,000	⇈	↑	↑	↑	LCD (LED)
$	**Sony** XR-55X90L	76	$1,000	⇈	↑	⇈	↓	LCD (LED)
$	**Roku** 55R6A5R	71	$450	–	⇈	!	!	LCD (LED)
	LG 55QNED80URA	67	$900	⇈	↑	↑	↑	LCD (LED)
	Samsung QN55Q60C	67	$600	⇈	⇈	↓	!	LCD (LED)
	Hisense 55U7K	66	$480	!	⇈	!	↓	LCD (LED)
	Samsung QN55Q70C	66	$700	⇈	↑	!	!	LCD (LED)
	Hisense 55U8K	65	$650	!	↑	⇈	↓	LCD (LED)
	LG 55UQ7050ZUD	65	$370	⇈	↑	↓	↓	LCD (LED)

55- TO 60-INCH TVs *Continued*

Brand + Model	Overall Score	Price	Survey + Test Results				
			Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
Samsung UN55CU8000	63	$480	⇈	↑	⇊	↓	LCD (LED)
Hisense 55U6K	60	$350	○	↑	↓	○	LCD (LED)
Samsung UN55CU7000	60	$370	⇈	○	⇊	↑	LCD (LED)
TCL 55Q650G	60	$320	○	⇈	↓	○	LCD (LED)
Sony KD-55X77L	58	$500	⇈	○	↓	↑	LCD (LED)
LG 55UR9000PUA	56	$470	⇈	○	↓	↑	LCD (LED)
Hisense 55A65K	55	$260	○	↑	⇊	↓	LCD (LED)
TCL 58S470G	55	$280	○	↑	⇊	↓	LCD (LED)
Hisense 55A76K	54	$270	○	↑	⇊	↓	LCD (LED)
TCL 55S450G	54	$250	○	↑	⇊	↓	LCD (LED)
TCL 55Q650F	53	$320	○	↑	↓	↓	LCD (LED)
Toshiba 55C350LU	51	$220	↑	↑	⇊	↓	LCD (LED)
Sharp 4TC55EL8UR	48	$300	—	○	⇊	↑	LCD (LED)
Vizio M55Q6-L4	47	$400	○	○	⇊	↑	LCD (LED)

46- TO 52-INCH TVs

Brand + Model	Overall Score	Price	Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
✓ **LG** OLED48C3PUA	83	$1,000	⇈	⇈	↑	⇈	OLED
✓ **Samsung** QN50QN90C	77	$1,100	⇈	⇈	↑	↓	LCD (LED)
✓ **LG** 50QNED75URA	67	$500	⇈	⇈	↓	↓	LCD (LED)
LG 50QNED80URA	63	$600	⇈	↑	○	↓	LCD (LED)
Insignia NS-50F301NA24	60	$200	⇈	↑	⇊	↓	LCD (LED)

46- TO 52-INCH TVs *Continued*

Brand + Model	Overall Score	Price	Survey + Test Results				
			Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
TCL 50Q550G	58	$400	○	↑	↓	↓	LCD (LED)
TCL 50S450R	57	$260	○	↑	⇊	↓	LCD (LED)
Hisense 50A65K	55	$240	○	↑	⇊	↓	LCD (LED)
TCL 50S470G	49	$240	○	○	⇊	↑	LCD (LED)

39- TO 43-INCH TVs

Brand + Model	Overall Score	Price	Predicted reliability	UHD picture quality	HDR	Viewing angle	Display type (backlight)
✓ **LG** OLED42C3PUA	80	$900	⇈	⇈	○	⇈	OLED
✓ **Samsung** QN43QN90C	75	$900	⇈	⇈	⇈	↓	LCD (LED)
$ **LG** 43UR9000PUA	65	$350	⇈	↑	○	↑	LCD (LED)
✓ **Samsung** QN43Q60C	64	$480	⇈	↑	↓	↓	LCD (LED)
$ **Samsung** UN43CU8000	64	$350	⇈	⇈	⇊	○	LCD (LED)
$ **Samsung** UN43CU7000	64	$280	⇈	↑	⇊	↓	LCD (LED)
Roku 43R4A5R	62	$230	—	⇈	↓	↓	LCD (LED)
Amazon B09N6LRBTR	61	$390	—	⇈	↓	↓	LCD (LED)
Sony KD-43X77L	61	$350	⇈	○	↓	↑	LCD (LED)
LG 43QNED75URA	60	$400	⇈	○	○	↑	LCD (LED)
TCL 43Q570F	54	$180	○	↑	↓	↓	LCD (LED)
TCL 43S450G	54	$200	○	↑	⇊	↓	LCD (LED)
TCL 43S450F	50	$200	○	↑	⇊	↓	LCD (LED)
Toshiba 43C350LU	46	$220	↑	○	⇊	↑	LCD (LED)

› Digital and All Access members can find the latest, complete ratings at **CR.org/TV**.

HOW WE TEST: Overall Score combines test results with survey data for predicted reliability from CR's 2021, 2022, and 2023 Summer Surveys about 120,904 TVs, owned by members who purchased a new TV between 2013 and 2023. **Predicted reliability** estimates the likelihood that newly purchased models from a given brand will develop problems or break within the first five years. A gray dash (—) indicates insufficient data for a brand-level rating. **UHD picture quality** is based on objective tests and subject evaluations by expert testers with 4K (ultra-high definition) content after the TV is adjusted for best fidelity. **HDR** indicates how effectively the TV can display the enhanced quality of high dynamic range content. **Viewing angle** is an evaluation of how well the TV retains contrast and color accuracy when viewed off angle. **Display type** is an indication of which television display technology, either LCD (LED) or OLED, is used.

⇊ ↓ ○ ↑ ⇈
WORSE — BETTER

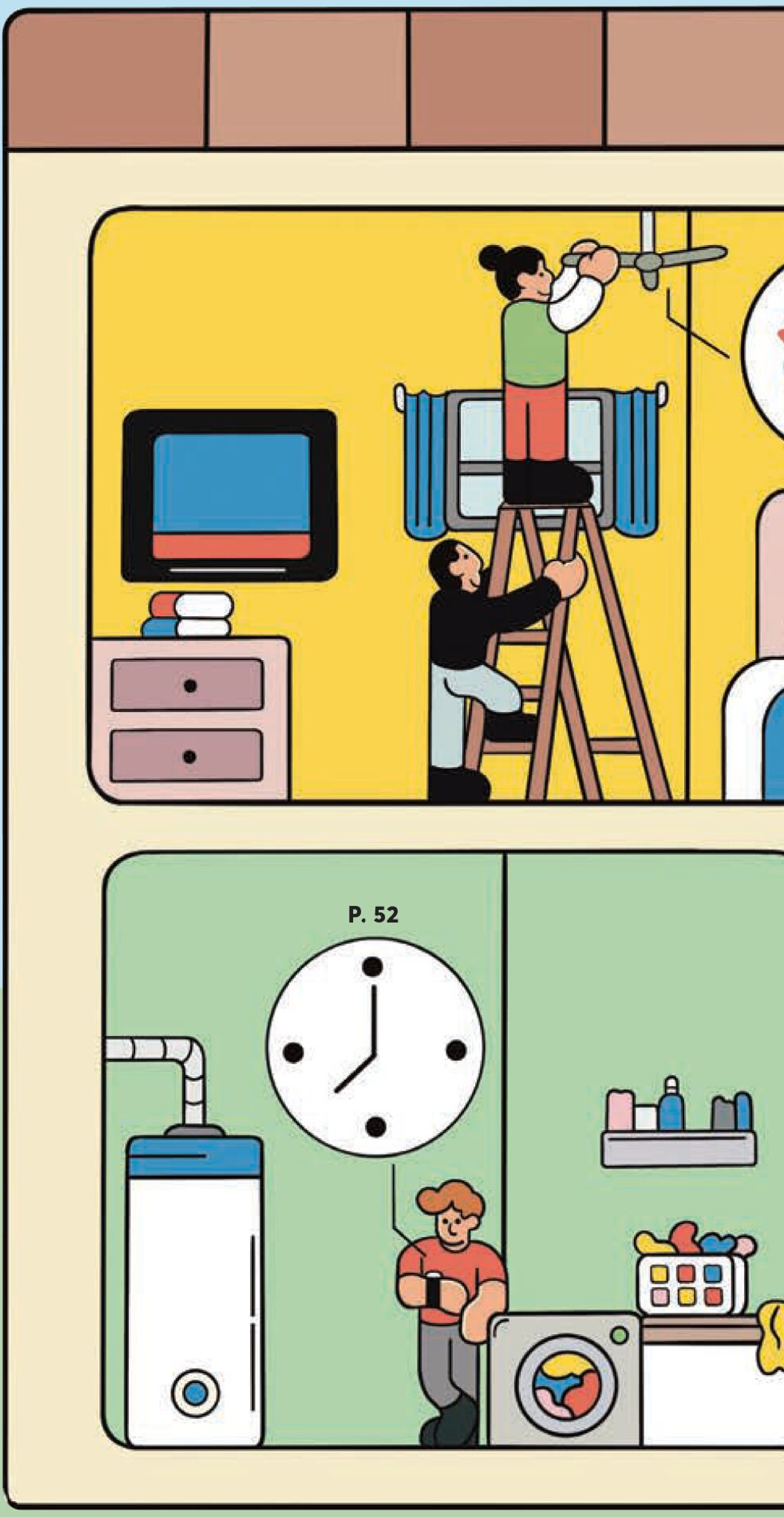
✓ CR RECOMMENDED

$ CR SMART BUY

Lower Your Energy Bills Right Now

You could save over $1,000 a year by making just a few of these easy, low-cost changes around the house.

BY TOBIE STANGER AND COURTNEY LINDWALL
ILLUSTRATIONS BY TRAVIS CONSTANTINE



An Easy Way to Save $1,000 a Year

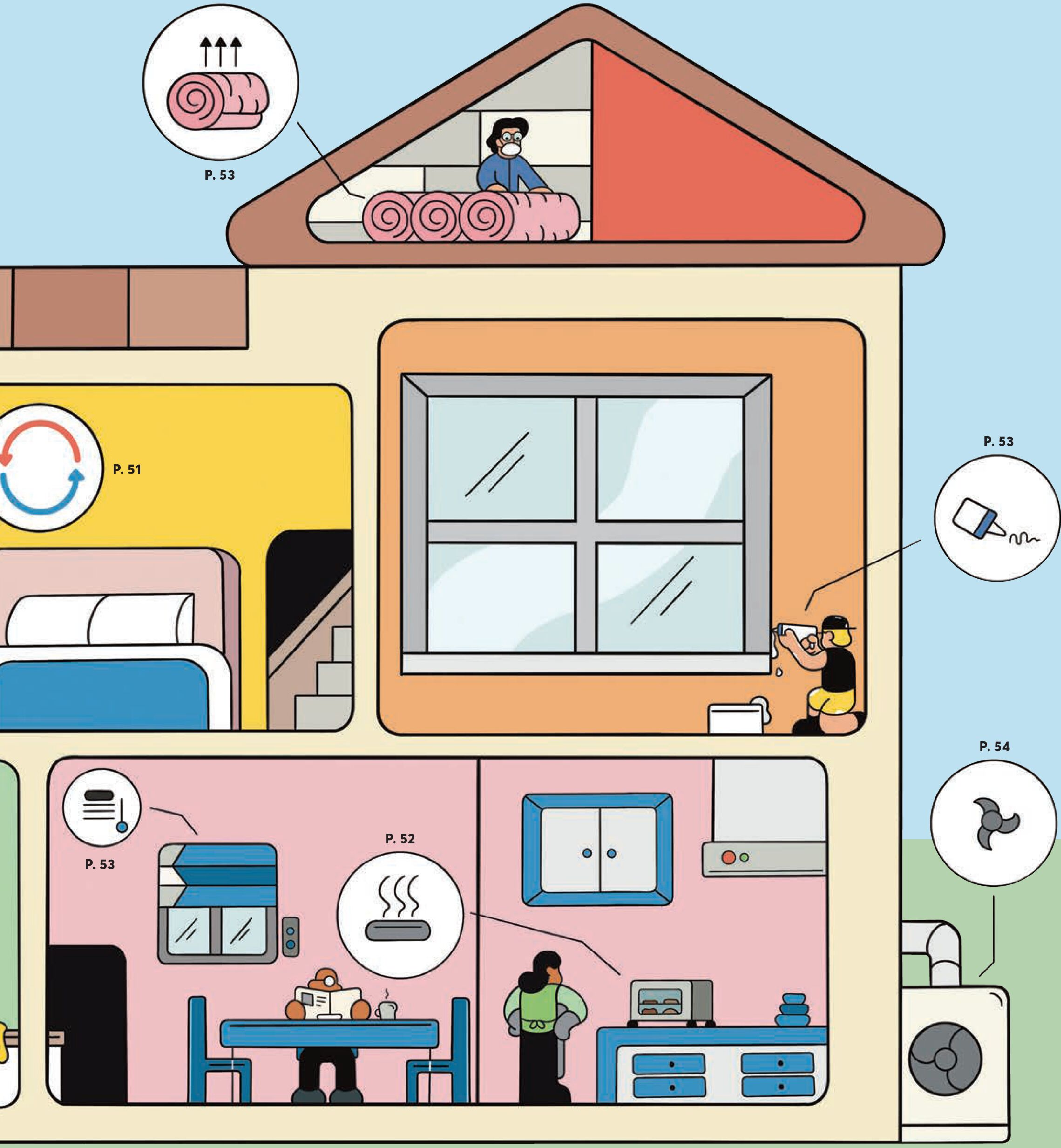
$414
TURN DOWN YOUR WATER HEATER

HERE'S SOME GOOD NEWS: Thanks to improvements like more efficient appliances and lighting, we're using less energy at home than we did 15 years ago, according to the U.S. Energy Information Administration (EIA). And this is despite the fact that we own bigger TVs, have more refrigerators, and more of us are using air conditioning.

But when it's time to pay your monthly bills, it may not seem like you're catching a break. The average annual price of electricity reached more than 15 cents per kilowatt hour (kWh) nationwide in 2022, according to the most recent data from the EIA—the highest in a decade.

There are simple steps you can take to trim those daunting bills. On the following pages you'll find 16 ways to save, including quick DIY projects and smart product swaps. And if you're considering a bigger, more long-term investment—installing a heat pump or solar panels, for example—we've got the intel you need to decide what's right for your home and budget.

Read on for the easiest ways to cut your monthly costs and keep your home comfortable year-round.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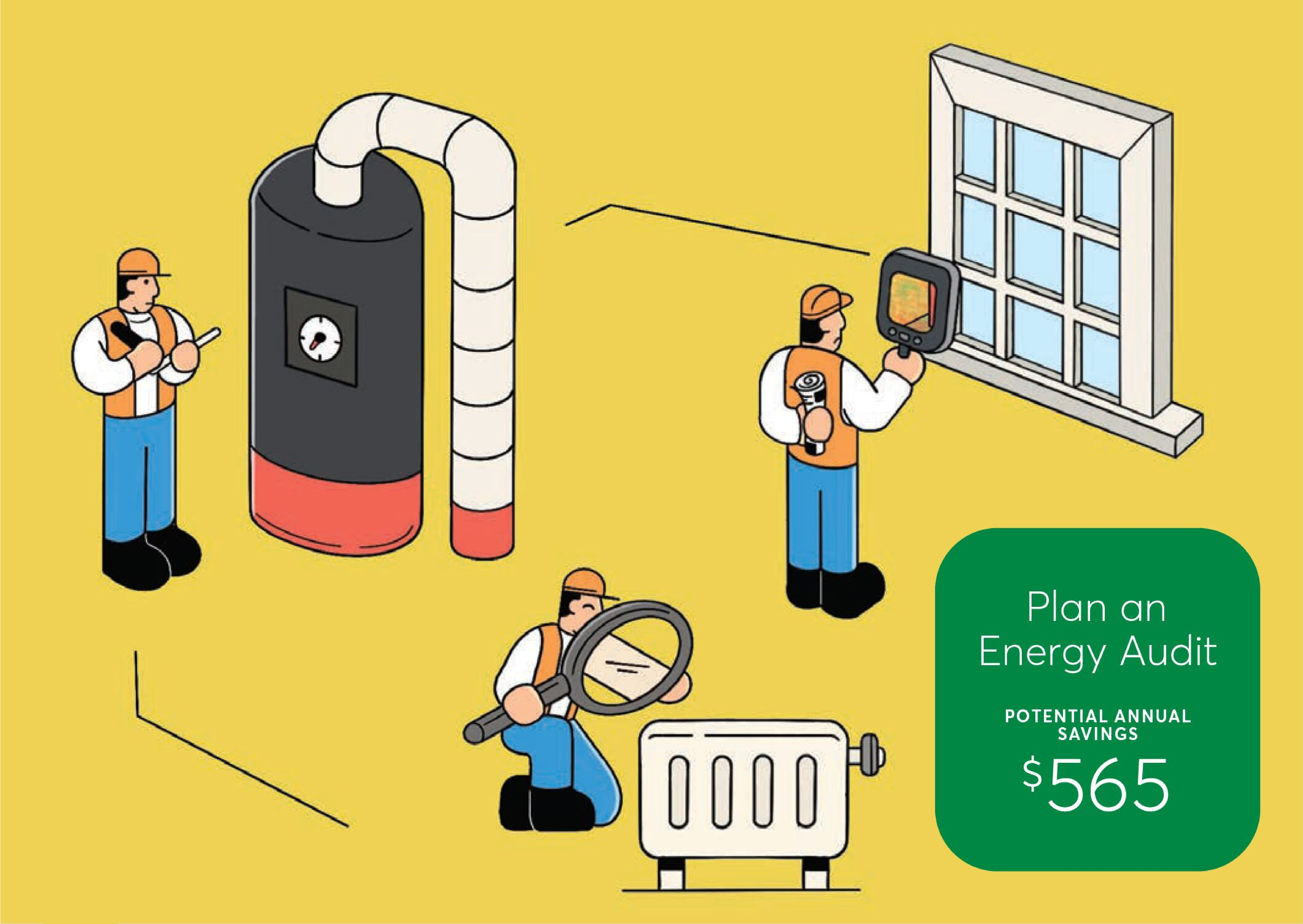
+ $243 JOIN A COMMUNITY SOLAR PROJECT

+ $225 SWITCH TO LED LIGHTBULBS

+ $188 PLUG UP AIR LEAKS

= $1,070



Plan an Energy Audit

POTENTIAL ANNUAL SAVINGS

$565

Little Changes for Big Savings

A few phone calls, some simple DIY improvements, and a couple of product swaps could help cut your monthly energy bills down to size.

Schedule an energy audit to find pricey problem areas.

Drafty attics, leaky door frames, inefficient heating systems: These can add up to a lot of wasted energy, but they're not always easy to identify by yourself. That's where an inspection by a certified energy auditor comes in. They find energy-wasting pain points around your home and suggest improvements. By following the audit's recommendations—such as putting inexpensive air sealing around windows and doors or upgrading your insulation—you could realize up to a 30 percent reduction in your energy bill. That's $565 per year, based on the EIA's 2020 average energy bill of $1,884, the latest data publicly available. Utilities and nonprofits often provide audit services for free. Rhode Island Energy, for instance, offers a free in-home audit to eligible customers. In Iowa, the federally sponsored Green Iowa AmeriCorps does the same for state residents. When there's a cost—between $200 and $700, according to Angi, the home-services marketplace—you can offset it with a tax credit of 30 percent, worth up to $150.

Lower the setting on your water heater

You could save more than $400 a year (without sacrificing comfort) by resetting an older water heater from 140° F, a common setting in the past, to 120° F. The DOE says that can cut annual energy costs from 4 to 22 percent. That's a $75 to $414 savings, based on EIA data.

Shop around for better prices

You may not be getting the best deal on electricity. If you live in a state that allows you to choose among energy suppliers, it's worth comparing their rates regularly and switching when you find a better one.

Make sure you understand the cost breakdown of your current energy bill and have competitive rates from other suppliers on hand. Some companies offer promotional prices to switch. Just be aware that these will rise at the end of the promotional period, so they probably won't help you save forever.

If you successfully knock your rate down by 1 cent per kilowatt hour, you could save about $108 per year, CR estimates. Also look for hidden discounts or rebates

SMART THERMOSTATS

✓ **Ecobee Smart Thermostat Premium EB-STATE6-01** *(above)* $250

91 OVERALL SCORE

✓ **Google Nest Learning Thermostat** $250

83 OVERALL SCORE

$ **Honeywell Home T9 RCHT9510WF** *(below)* $170

73 OVERALL SCORE

CEILING FANS

✓ **MinkaAire Light Wave 52" Ceiling Fan** *(above)* $360

90 OVERALL SCORE

✓ **Honeywell Carnegie 52" Ceiling Fan (50614)** $162

80 OVERALL SCORE

$ **Portage Bay Hugger 52" West Hill Ceiling Fan (50252)** $81

77 OVERALL SCORE

and other incentives for, say, signing up for online billing or auto-payments or for buying energy-efficient appliances. ConEd in New York, for example, has a rebate program that allows you to earn $85 toward your energy bill when you install an eligible smart thermostat. (More on smart thermostats below and left.)

Install a smart thermostat

Typically controlled with a smartphone app, these devices regulate your home's temperature more efficiently and precisely than a traditional programmable model or a thermostat you set manually. You can adjust a smart thermostat even when you're away from home, programming set hours for your heater or air conditioner to run. Some models use motion sensors and smartphone location data to tell whether you're home, and they can even learn your preferences over time. According to Energy Star, these devices can lower your heating and cooling bills by an average of 8 percent. Based on EIA data, that's $65 per year.

Keep an eye on your actual usage

Many of us are in the dark about how much energy our most-used devices eat up. Personal electricity usage monitors will give you detailed data on which devices draw the most power—like space heaters and video game consoles—and can cost as little as $20. Simply plug the monitor into a standard 120-volt outlet and the appliance into the monitor. If the information helps you shift your behavior and reduce your electricity consumption by just 15 percent, you'll break even on the investment within about a month and could eventually save about $243 per year, based on 2022 EIA electricity data.

Pick Efficient Lighting

ROBIN SAIDOV,
Weston, Conn.

"We replaced nearly 50 incandescent bulbs with LED bulbs we bought at Costco. We saved $100 a month on electricity and broke even before the end of the year. The lights in my kitchen are on 11 hours a day, and replacing those six bulbs alone accounts for about $30 in savings. Plus, I can't tell the difference in the look of the light. The soft white bulbs we got have a nice, homey feel."

Get more from your ceiling fan

You probably know that running a ceiling fan counterclockwise can cool a room with just a fraction of the energy required by an air conditioner. But don't stop using it when the days turn cooler. Just reverse the direction so the blades turn clockwise to recirculate warm air trapped near the ceiling. If using a fan means that you can adjust your thermostat at least 7 degrees from its normal setting for at least 8 hours a day, you can save up to 10 percent on heating and cooling, the Department of Energy (DOE) says. That's $82 annually, based on EIA estimates.

Switch to LED lightbulbs

Changing your lighting is a bright idea (see "Pick Efficient Lighting," above). Replacing all of your incandescent bulbs with comparable LED bulbs can save, on average, $225 a year in energy costs, according to the DOE.

WORSE — BETTER | ✓ CR RECOMMENDED | $ CR SMART BUY

Time your appliance use to avoid peak electric rates

Some utilities charge higher electricity rates when demand peaks, such as midday when air conditioner use is typically highest or in the evening when people return from work. Then the companies drop rates when demand dips.

Customers often need to opt in to these so-called "time-of-use" plans through their utility. You can cut costs by enrolling and then running appliances—your washer and dryer, for example—at off-peak hours.

If you signed up for ConEd's time-of-use plan in the New York metro area and kept 75 percent of your electricity usage to off-peak hours, you could save nearly $200 during the four warmest months compared to using a standard plan.

But beware: If you commit to one of these plans, you'll need to closely monitor the hours when you're consuming the most energy. You could end up paying more if you run appliances and other electric devices during peak and super-peak hours.

Whether or not your utility offers a time-of-use plan, set your thermostat to a slightly less-cooled temperature during summer peak hours. You'll save money and your air conditioner won't have to work as hard.

Don't heat up your full-sized oven

Do you really need your range to roast that chicken? It's often easy to adapt a recipe to use a countertop appliance instead, like a toaster oven or microwave, especially if you're cooking only for one or two. Smaller kitchen tools like these can save you time and money because they slash or eliminate preheating. And you won't warm up your home on a hot day, which might reduce your cooling needs.

Cook with small appliances to potentially save energy, money, and time.

TOASTER OVENS

✓ Breville The Smart Oven Air Fryer Pro BOV900BSSUSC
(above) $400
74 OVERALL SCORE

✓ Ninja DCT401
$250
70 OVERALL SCORE

LARGE COUNTERTOP MICROWAVE

✓ Panasonic NN-SE785S
(above) $420
79 OVERALL SCORE

MEDIUM COUNTERTOP MICROWAVE

GE JES1109RRSS
$190
72 OVERALL SCORE

TAX BREAKS FOR ENERGY UPGRADES

Taxpayers can claim robust federal tax credits for certain home improvements made through 2032, up to 30 percent.

Check the Energy Star program's website for details on the energy-saving products and activities that qualify (energystar.gov/about/federal-tax-credits). And keep these credits in mind:

- **The Residential Clean Energy Credit** covers alternative

Recharge your batteries

They can easily cost double what single-use batteries cost but can be recharged and reused hundreds of times. Use rechargeables in battery-gobbling devices like game controllers and toys. Rechargeables instead of single-use batteries in an Xbox Wireless Controller will save just a bit in the first year (due to the charger's cost) but more than $20 in each of the next four years.

Take advantage of solar power—without panels on your roof

Community solar projects generate electricity from nearby solar arrays and sell it to the electric grid. If you subscribe to one, you get credits to your electric bill, which can save 5 to 15 percent annually, according to the nonprofit Rewiring America. That's $81 to $243 a year, based on EIA data. Some community solar projects don't charge a subscription fee.

Search online for "community solar" or find a local project at EnergySage's Community Solar Marketplace (energysage.com/shop/community-solar).

If you don't see an available project, check again later. Projects close to new applicants once they reach a certain number of subscribers, but new ones form regularly.

Help your windows work harder all year

In the summer, about three-quarters of the sunlight enters your home through standard double-pane windows as heat, potentially adding to cooling bills. New, ultra-efficient windows can reduce those bills, but they're pricey—and typically not an option if you rent. Instead, try these fixes:

▸ **Apply easy-to-install solar film** to your windowpanes, particularly on east- and west-facing windows, to screen out the sun's rays without disrupting your view. This film may cut energy costs in older homes by up to 10 percent, says the International Window Film Association, an industry group. Plus, it will help prevent your furniture, fabrics, and artwork from fading.

▸ **Add high-efficiency cellular shades.** A 2018 study by the Pacific Northwest National Laboratory found that these "honeycomb" window shades cut up to 25 percent of cooling costs when used consistently. That translates to $75 a year, on average, based on EIA data on A/C expenditures. Find efficient shades through the Attachments Energy Rating Council at aercenergyrating.org.

▸ **Draw the drapes on hot days.** You can reduce the heat from the sun that enters your home by up to 33 percent, the DOE says. To get that level of benefit, though, you'll need to use medium-colored curtains backed with white plastic.

Plug up air leaks

Twenty-five to 40 percent of a home's heating and cooling energy is lost through holes and gaps you might barely notice. But caulking cracks in walls and spaces around baseboards, windows, and doors—at a cost of about $30—can trim at least 10 percent of your energy use, the DOE says. That's $188 annually, based on EIA figures.

Create a Tighter Seal

SEAMUS NALLY,
Fort Collins, Colo.

I spent less than $100 on weather-stripping windows and around $2,000 getting my attic insulated by a local company—and broke even on that investment in about 2½ years. I notice the biggest difference in my savings during cold months—sometimes up to $80 per month.

energy equipment, including solar panels and storage batteries. Systems of any price and taxpayers of any income are eligible. You can carry over unused credit in future years to offset taxes owed.

▸ For exterior doors, windows, skylights, insulation materials, central air conditioning, water heaters, and furnaces, the **Energy Efficient Home Improvement Credit** maxes out at $250 to $1,200 per item, depending on the upgrade. You can also get up to $2,000 for air-source heat pumps and biomass stoves and boilers, and up to $150 for home energy audits. You can claim the credits annually through 2032 for eligible improvements.

Install
Solar Panels

POTENTIAL LIFETIME SAVINGS*

$20K–$90K

When Major Energy Improvements Pay Off

Installing a heat pump or adding solar panels to your roof can offer long-term savings—but it can also require a big investment up front. So try less costly upgrades first, such as sealing leaky ductwork or laying fiberglass insulation batting in your attic. That could improve comfort and trim energy bills, and could lower the needed capacity (and price) of larger projects. For homes in such climates, "envelope upgrades" can shave up to $3,700 off a heat-pump installation, the DOE says.

What to know about heat pumps

An electric heat pump heats and cools your home like a combined furnace and central air conditioner. It's efficient, which can help trim your energy bills. And installing an electric heat pump in place of a fossil-fuel-burning furnace can recoup nearly 104 percent of its cost at resale, according to the Remodeling 2023 Cost vs. Value Report, which used results from a 2023 survey of real estate agents by Zonda Media, a building-trades publication. The report estimated a cost of $17,747, on average, nationally. (Surveys of CR members who purchased heat pumps between 2018 and 2023 found they paid an average of $8,348 for them, including installation.)

Heat pumps have been widely used in southern states like Alabama, the Carolinas, and Florida, but improved technology means they can be used by many in the north, too. For instance, installing units designed for cold climates could shave $1,500 off annual heating bills for homes in Michigan currently using propane or older forms of electric heating, according to the DOE.

The most common heat pumps in the U.S. are an air-source type. In the summer, they transfer a home's warm air to the outside, just like an air conditioner. In the winter, they transfer warmth from outside air to inside the home. Transferring warm air is a far more efficient way to heat than burning fossil fuels, and it's less costly than using electric-resistance heating. Consider one if you:

▶ **Heat with oil or propane.** The average annual savings is $840, according to Rewiring America. If you heat with gas, you'd save just $60 a year.

▶ **Have electric-resistance baseboard heat.** The average savings over this pricey heat source is $780 a year, Rewiring America estimates.

▶ **Plan to replace or install a central A/C system.** Heat-pump systems can cost more, but a tax credit of up to $2,000 for installing an eligible one can

***Source:** EnergySage

help defray that cost. (A tax credit for installing eligible central A/C goes up to $600.) Plus, you can save on winter heating. (See "Tax Breaks for Energy Upgrades," on page 52.)

▸ **Live where winters get very cold.** Today's heat pumps are designed to be primary heat sources even in cold climates. But where the temperatures regularly drop below 5° F, they may not be efficient at heating your home on their own.

The type of heat pump system you buy will depend on how your HVAC system is designed. If you have central A/C, your home already has ducts that a new, ducted air-source heat pump can use for cooling and heating.

If you don't have ducts, opt for "mini-splits," air handlers mounted on inside walls and connected by external piping to a unit housing a condenser, fan, and compressor. Installing one mini-split costs $3,000, on average, says HomeAdvisor, a home-services marketplace.

Make sure the recommended heating and cooling capacity in installer estimates is based on a recognized method, such as the one found in the Air Conditioning Contractors of America's "Manual J."

Ask installers about seasonal promotions, manufacturer and installer rebates, and discounts for paying in cash, and compare loan terms from the contractor or manufacturer with those from other lenders.

How to decide on solar panels

They do have a hefty up-front cost. Most households need 11 kW to cover their electricity needs, according to EnergySage, an alternative energy marketplace. After a 30 percent federal tax credit, the average cost to install a system of that capacity is $22,022. But over time, you can save tens of thousands of dollars on your energy bill. EnergySage estimates savings of $20,000 to $90,000 over 25 years. Plus, the market value of a home with solar panels could rise slightly due to the upgrade, a 2021 study by government researchers found.

Though leasing solar can in some cases require no money down and offer instant savings, it's typically a worse long-term deal than buying, EnergySage maintains. That's due in part to the interest costs and finance fees; you also may face payment increases. Because you don't own the system, you also won't get a tax credit. The 2021 study found no increase in home value from leased solar.

To shop, plug your address and average monthly electric bill into the calculators at Google Project Sunroof or EnergySage. You'll see how big a system your home can handle, your break-even point, and potential savings.

Factor in a roof inspection plus the estimated cost to repair and replace roofing shingles that are more than 10 years old, says the roofing maker Owens Corning. Asphalt roofs and solar panels can last up to 30 years, so buying both new at the same time means you won't have to remove and reinstall the panels to redo your roof, a potentially costly expense. And check with your homeowners association for restrictions on solar installations.

Solar marketplaces like EnergySage and SolarReviews are useful tools for comparison. EnergySage can show competing bids from solar companies for your situation without requesting your phone number. EnergySage and Solar Reviews also judge the quality of solar equipment. And both rate and show customer reviews of installers.

As you consider solar companies, you might see references to "price (or cost) per watt." Like supermarket unit pricing, that figure can help you compare the relative price of bids. "But other characteristics of the project—equipment quality, warranty, installer reputation—are better indicators of overall value," says Spencer Fields, director of insights at EnergySage.

Other measures to consider:

▸ **Annual production.** Proposals may show panel configurations with different estimates of production—from, say, 100 to 137 percent of your current needs. Excess power could be worthwhile if you plan to buy an electric car, for example. But don't get a system that's too big.

▸ **Power degradation.** The best panels degrade at 0.25 percent of their original capacity per year, still producing around 92.5 percent of that capacity after 25 years, Fields says.

▸ **The installer's bona fides.** Look for several years of experience. Ask for proof of licensure and confirm certification by the North American Board of Certified Energy Practitioners. Check for complaints with the Better Business Bureau.

Why your next roof could help you save

If cooling costs are high and your roof is old, consider replacing it with a "cool roof," shingles, tiles, or metal roofing designed to reflect solar energy. By reducing attic temperatures, these products can shave 7 to 15 percent off cooling costs, says the nonprofit Cool Roof Rating Council. In Arizona, where average annual cooling bills are more than $650, that's a potential savings of nearly $100 a year. In the council's Rated Roof Products directory (at coolroofs.org) the higher the solar reflectance index, the more effective the roofing.

FIND A RELIABLE HEAT PUMP

If you're spending a lot on a system, it should work well—and keep working. CR's heat-pump brand reliability ratings, below, are based on surveys of CR members about their experiences with 10,158 heat pumps purchased new between 2007 and 2023.

- American Standard
- Trane
- AirEase
- Allied
- Armstrong
- Concord
- Ducane
- Lennox

- Bryant
- Carrier
- Coleman
- Luxaire
- York

- Amana
- Arcoaire
- Comfortmaker
- Daikin
- Day & Night
- Goodman
- Heil
- KeepRite
- Payne
- Rheem
- Ruud
- Tempstar

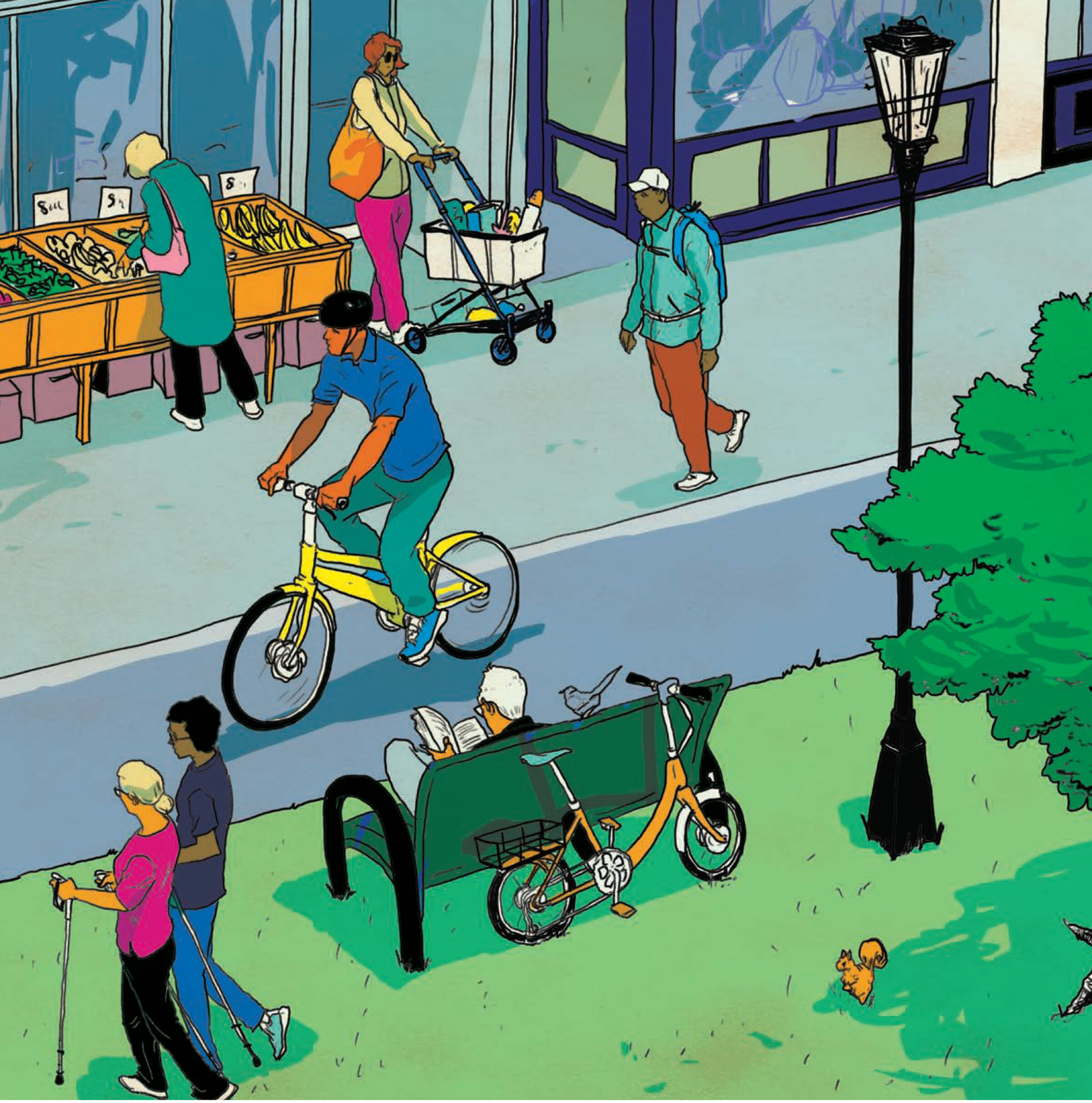
- Broan
- Frigidaire
- Gibson
- Maytag

WORSE ⟷ BETTER

COFFEE
Open
OPEN

Get Around Town More Easily

Whether you're grabbing some groceries or biking across town, we have the tips and tools to take you there.



WANT TO MAKE IT EASIER to carry home your goodies from the bakery up the hill? Walk to the coffee bar a few blocks away? Or wait in line with a package on a busy day at the post office? The right gear can make all of this much more comfortable as well as safer.

There's a growing number of well-designed, well-priced tools out there to help. These include personal shopping carts that are easy to maneuver, even when full of groceries. Rollators with sturdy seats so that you can take a brief break while on a walk. E-bikes that make going uphill a breeze. Here, from CR's tests and outside experts, is a rundown on what's new and useful to help you get where you want to go, on foot or by bicycle.

BY JENNIFER COOK

ILLUSTRATIONS BY MICHAEL BYERS

Walking

Walking poles, cane, shopping cart, rollator? What you pick should fit your body and your needs, says Nancy Gell, PhD, a physical therapist at the University of Vermont College of Nursing and Health Sciences. Good news: Some of the mobility tools below are covered by insurance.

→ Poles

If you've been on a nature trail in recent years, you've probably seen people striding along with walking poles (aka Nordic or trekking poles). These help distribute your body weight more evenly and have long been used by hikers for stability and support on rough terrain. It turns out they may help you safely navigate uneven sidewalks as well. Plus, they can improve your posture by engaging your upper body and encouraging you to stand up straight.

CHOOSING RIGHT For walking on sidewalks, look for lightweight aluminum or composite poles with rubber tips. Other tips are for dirt, ice, or snow, says Karen Jacobs, OT, EdD, associate dean of digital learning and innovation at the Sargent College of Health and Rehabilitation Sciences at Boston University. Some, such as the York Nordic Motivator Walking Poles ($179, yorknordic.com), are height-adjustable. Others, like the Black Diamond Pursuit Shock Trekking Poles, above right (blackdiamondequipment.com), have shock-absorbing internal springs, making a walk easier on your joints. For hand comfort, both of the above have ergonomic handgrips, as do the Urban Poling Activator Poles ($119, target.com).

→ Canes

They come in numerous styles, including the rustic wooden beauties at websites such as brazos-walking-sticks.com and endlessly customizable ones from neo-walk.com. Looks aside, a cane's essential purpose is to take some weight off a sore or injured knee or hip, says Christine Childers, PhD, director of physical therapy at the University of Arizona College of Medicine in Tucson. They can also steady your balance if you're feeling wobbly.

CHOOSING RIGHT For most people, an offset cane, with a curved top that can bear some of your weight, can go a long way in making a walk more comfortable. The experts we interviewed say a height-adjustable lightweight aluminum or carbon fiber cane with a nonslip rubber tip, such as the Mosaic Stained Window Offset Walking Cane With Comfort Grip, left (royalcanes.com), is generally best. For convenience, a folding cane like the 7.6-ounce LEKI Super Micro Adjustable Travel Cane ($74, elderluxe.com) can be stashed in your bag and pulled out when you need it.

Black Diamond Pursuit Shock Trekking Poles $170

Mosaic Stained Window Offset Walking Cane $29.95

Joovy Boot Shopping Cart $230

→ Shopping Carts

Out walking and spot that hard-to-find flavor of your favorite seltzer? A personal shopping cart can make it much easier to tote a case—or any other heavy or bulky items—back home. And because they're more compact than typical supermarket shopping carts, they're simpler to navigate in crowded store aisles.

CHOOSING RIGHT For optimal maneuverability, look for a cart that has swiveling front wheels, like those on the Versacart Transit Utility Cart ($84, wayfair.com) and the Pipishell Shopping Cart ($70, amazon.com). The Pipishell also has height-adjustable handles. A cart with its own removable shopping bag at waist height, such as the Joovy Boot at left (joovy.com), eliminates the need to bend far over to lift out groceries. And if you'll be going up any stairs, consider a tri-wheel design—which has three rotating wheels on "spokes" at the back of the cart—like those on the Mount-it Fabric Rolling Stair Climber ($55, homedepot.com).

Try These When You're on Foot

Bags, shoes, and clothing that can make an around-town walk a lot more enjoyable.

SUPPORTIVE SHOES

Stability is key in walking shoes, says Timothy J. Miller, DPM, a podiatrist in Orlando, Fla. So is comfort. He suggests footwear with stiff soles and a back that's rigid, not soft. This should reduce any foot pain and "stress and strain on the joints and ligaments," Miller says. Also good: a deep tread on the soles for traction to help prevent falls. Shoes that may work well include the Asics Gel Kayano, above ($160, asics.com); the Brooks Ariel ($160, brooksrunning.com); and the Hoka Arahi ($145, hoka.com), according to Miller.

BAG FOR EXTRAS

With a reusable tote, you'll always be able to load up at the farmers market. The machine-washable Baggu Tote Bag, above ($14, baggu.com), fits compactly into its own carrying case, as does the SYZY Crossbody Packable Travel Tote ($25, syzyuniverse.com).

HANDS-FREE PACK

For carrying a few necessities, Karen Jacobs, an occupational therapist at Boston University, recommends a lightweight backpack with padded shoulder straps and a hip strap. One that may fit the bill is the 18-inch REI Coop Flash 18, ($50, rei.com).

REFLECTIVE WEAR

The National Safety Council advises that walkers wear bright or reflective clothing for visibility. You can choose hats and other accessories, T-shirts, and jackets, including this can't-miss-seeing-it lightweight L.L.Bean Bright Multisport Jacket ($99, llbean.com).

PHOTOS: MANUFACTURERS

Rollators

Want to be able to take a break while you're out and about? Consider a rollator, a kind of rolling walker that usually has a seat, along with two fixed wheels in the back and two that swivel in front. If you're standing for longer than you'd like, you can park the rollator against a wall or fence, lock the wheels, and sit. These can be a boon if you tend to get out of breath while walking—and for those who have pain in their knees or hips, says Cameron Hernandez, MD, a professor of internal medicine, geriatrics, and palliative medicine at the Icahn School of Medicine at Mount Sinai in New York City.

CHOOSING RIGHT You'll want a padded seat with back support and a basket. Look for front wheels that swivel well without wiggling, Hernandez says, to help you negotiate sidewalk cracks and bumps and doorsills. Make sure it's easy to use the hand brakes' locking mechanism, which you'll need when you sit. Options include the NOVA Medical Products Express Rollator Walker, below (amazon.com), and the Medline Premium Empower Folding Mobility Rollator Walker ($151, athome.medline.com). Both fold up tightly for easier transport and space-saving storage. The Nova also has all-terrain wheels.

NOVA Medical Products Express Rollator Walker $260

Cycling

Riding a bike for doing errands or visiting friends—or just fun—is easier on your hips and knees than walking, and it can strengthen your heart and lungs. Whether you use an electric bike or a conventional one may depend on where you ride, what you want to spend, and your comfort level.

E-Bikes

With an electric motor that can assist you while you're pedaling—or, in models with a throttle, replace pedaling altogether—an e-bike can be a good option if you tire while riding. They tend to be pricier and heavier than a conventional bicycle.

CHOOSING RIGHT Jeffrey E. Herrick, PhD, director of the University of Lynchburg Active Aging Program, recommends a Class 1 or Class 2 e-bike for older adults. (You might want to get your doctor's okay, too.) Motors on Class 1 e-bikes turn on only when you pedal and cut out when your speed goes over 20 miles per hour. Class 2 e-bikes also feature electric assist up to 20 mph. Their motors can be activated by pedaling or with a throttle control on the handlebar. For either class, consider a step-through frame—which has a low top tube or none at all—so you won't have to lift your leg high to get on and off. Upright handlebars, a plush seat, and wide tires also add comfort. Take some practice spins in a traffic-free area before road-riding. "When you add a motor, you're [moving] a little quicker and things happen a little faster, and your reactions need to adjust," Herrick says.

Conventional Bicycles

Several types of conventional bicycles are good picks for local trips. "Comfort bikes" such as cruisers have wide tires, cushy seats, and upright handlebars for a comfortable and steady ride. Upright adult tricycles tend to offer good stability and cargo space. One tricycle option: the Everyjourney Tricycle ($600, sixthreezero.com). Cruisers and tricycles are primarily for pavement and short distances. Hybrids, a mix of road bike and mountain bike, have lower handlebars and narrower tires but can handle gravel and dirt paths and go farther and faster. The smaller wheels on folding bikes (like the CR-rated Zizzo Euromimi Urbano, $430, with an Overall Score of 80) let you get on and off more easily.

CHOOSING RIGHT Look for a step-through design like that on the Schwinn Destiny Step-Thru Cruiser, below (amazon.com), and the Trek Townie 7D 24 Step-Thru ($630, trek.com). CR experts also recommend disc brakes. A gel or memory foam seat can make sitting more comfortable, and if you'll be riding on hills, opt for a bike with multiple speeds. Thinking about a folding bike? Be sure it's easy to fold, unfold, and carry.

Schwinn Destiny Step-Thru Cruiser $350

E-Bikes and Cycling Gear

Here are a few of CR's top-rated electric bikes, plus helmets and other accessories that can make your ride smoother and safer.

IF YOU WANT A POWERED RIDE

CLASS 1

✓ **Cannondale Adventure Neo 4** $2,850

81 OVERALL SCORE

The 9-speed, 50-pound Adventure Neo 4 is easy to pedal without power and has excellent battery range and hydraulic disc brakes, and very good acceleration. Its mid-drive motor (mounted near the pedals) is more responsive than a hub-drive motor (mounted in the rear hub).

✓ **Trek Verve+ 2 Lowstep** $2,800

78 OVERALL SCORE

CLASS 2

✓ **Aventon Pace 500.3 ST** $1,599

86 OVERALL SCORE

This 8-speed 53-pound model cruises and goes uphill well without any power. Its hub-mounted electric motor takes off fast and can climb even steep hills quickly. It also has excellent brakes and very good battery range.

✓ **Blix Sol Eclipse** $1,899

82 OVERALL SCORE

FOLDING

✓ **Blix Vika+ Flex** $1,899

78 OVERALL SCORE

A Class 2 e-bike, this is easy to ride on flats and hills without power. With the motor on, it accelerates quickly. It also has excellent braking and good battery range. At 54 pounds, it's heavier than some other folding e-bikes in our tests.

Citizen Bike London $1,300

65 OVERALL SCORE

GET A GOOD HELMET

A bike helmet can significantly cut your risk of a head or brain injury in an accident. Look for protective technology, such as a Multi-Directional Impact Protection System (MIPS) or WaveCel, which is designed to reduce the likelihood of a concussion. Try on a helmet you're considering to check the fit, which should be snug, with the straps forming a V underneath and slightly forward of each earlobe. Check out some of our top-rated models.

✓ **Trek Starvos WaveCel** $105

90 OVERALL SCORE

✓ **Bell Formula LED MIPS Ghost** from $139.95

86 OVERALL SCORE

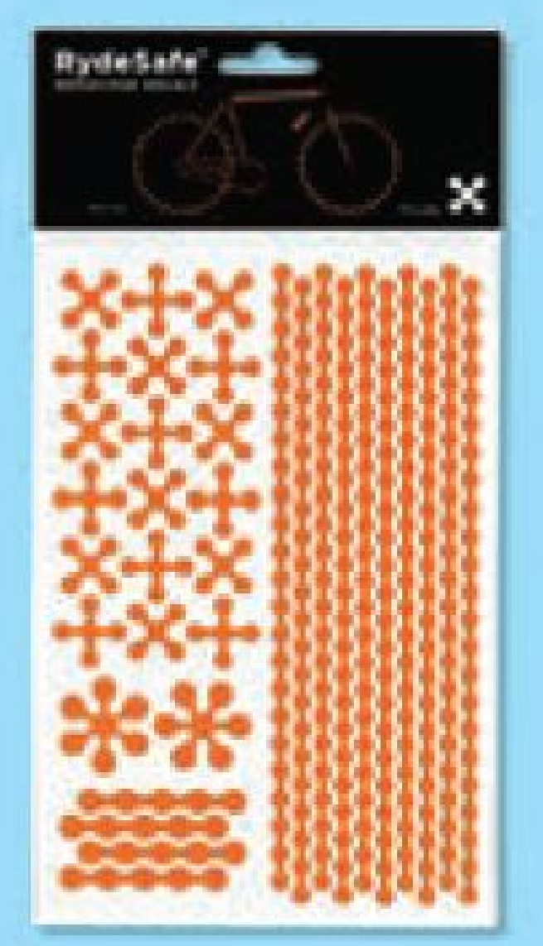
✓ **Lazer Tempo Kineticore** $50

85 OVERALL SCORE

$ **Giro Register MIPS** from $35.98

85 OVERALL SCORE

SEE AND BE SEEN



Ryde Safe Reflective Stickers $14

Fluorescent clothes (or bright yellow or white) can help drivers see you. Also good: reflective stickers on your bike or helmet, like these Ryde Safe Reflective Stickers (rydesafe.com), and lights, a bell or horn, and a rearview mirror.

CARRY YOUR STUFF WITH EASE

State Bicycle Co. Saddle Bag $30

A compact saddle or handlebar bag can hold your wallet, phone, and other essentials. One option is the State Bicycle Co. Saddle Bag (statebicycle.com), which attaches beneath and behind the bike's seat.

PHOTOS: SCOTT MEADOWS/CONSUMER REPORTS (HELMETS); MANUFACTURERS (REMAINING)

WORSE ⊢—⊣ BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

HOW TO TRACK YOUR HEALTH AT HOME

Blood pressure monitor? Fitness tracker? Cholesterol tests? Here's what you need, and what you can skip.

by Hallie Levine ● Photograph by Sarah Anne Ward

Nearly one-third of Americans do not have a primary care provider, a number that has been on the rise for years. Even if you do have a regular doctor, it may be difficult to get in to see them when you want. According to a survey of 15 metropolitan areas in the U.S., wait times for a doctor's appointment are significantly longer now than they have been at any point since the survey began 20 years ago. This can make it more challenging for you to be clear on the state of your health—and to get any potential issues addressed before they escalate.

On the upside, there are a growing number of ways to monitor your health yourself between doctors' appointments, says Jeffrey Kullgren, MD, an associate professor in the department of internal medicine at the University of Michigan Medical School in Ann Arbor. While you may already have a first-aid kit, consider adding a few items to it, notably those that will allow you to track your blood pressure, temperature, heart rate, weight, and more without leaving home.

You won't be alone in this: At-home testing is on the rise, according to a 2022 poll conducted by the University of Michigan. But while monitoring tools can be quite useful, "it can be hard to know what's worth spending money on," Kullgren says. Home blood pressure monitors, for example, have been shown to help people with hypertension keep their condition under control. Yet these devices may sometimes be marketed to people who don't really need them. And not all the home blood pressure monitors on the market are accurate.

Perhaps most important: Even diligent home monitoring can't replace a trusted clinician. These tools "have the highest value when they're used together with guidance from your healthcare provider," Kullgren says.

Here's a look at some of the most useful at-home devices for assessing different aspects of your health—and other home health products you may want to leave on the store shelf.

HOME HEALTH TOOLS WORTH BUYING

BLOOD PRESSURE MONITOR

✓ Omron Platinum BP5450 (Amazon) $84

86 OVERALL SCORE

DIGITAL SCALE (SMART)

✓ Etekcity Apex EFS-A591S-KUS $80

91 OVERALL SCORE

FITNESS TRACKER

✓ Fitbit Inspire 3 $100

85 OVERALL SCORE

DIGITAL THERMOMETER

✓ Braun ThermoScan 7 IRT6520 $42

92 OVERALL SCORE

4 Helpful Devices

Expert advice on choosing and using these effective self-assessment tools—and some of the top picks from CR's rigorous tests.

BLOOD PRESSURE MONITOR

This allows people to track their blood pressure at home. That's useful because almost half of U.S. adults—nearly 120 million people—have high blood pressure, according to the Centers for Disease Control and Prevention. And only about a quarter of them have the condition under control. Hypertension means your systolic (top) number is 130 mmHg or higher, and your diastolic (bottom) number is 80 mmHg or higher. Anything over 120 mmHg systolic is considered prehypertension. **WHO IT'S USEFUL FOR:** A home blood pressure monitor is a must for anyone with high blood pressure and is worth considering for people with prehypertension, too, says cardiologist Nieca Goldberg, MD, a clinical associate professor of medicine at the NYU Grossman School of Medicine in New York City. It can help you get more accurate and consistent blood pressure readings than in a doctor's office, and lets you see how your blood pressure changes in response to lifestyle changes or medications. **FOR BEST RESULTS:** Take your blood pressure twice daily, at the same time of day, Goldberg says. Each time, take two to three readings, a minute or two apart. Use an arm-cuff monitor if possible. (Our tests have found that they're more reliable than wrist cuff models.) Don't smoke, exercise, or consume caffeine or alcohol for 30 minutes beforehand; use the bathroom and rest quietly for at least 5 minutes. Then sit with your back straight and supported on a hard chair, feet flat on the floor. Your arm should also be supported on a flat surface, such as a table, with your upper arm at heart level. "Record all of your results and bring them to your next doctor visit," Goldberg says, to help inform your treatment.

THERMOMETER

An old standby for kids, this device is critical for adults too: Whenever you don't feel well, it's helpful to know if a fever has set in—and how high it is, says Michael Hochman, MD, MPH, a Los Angeles internist. If a fever lasts for more than three days, or rises above 104° F, see your doctor. **WHO IT'S USEFUL FOR:** Everyone. And it's a good idea to take your temperature a couple of times when you're not sick, to determine your personal baseline. A study published last year in JAMA found that normal temperatures range anywhere from 97.2 to 98.4° F, with an overall average of 97.9° F. A note: Temperatures tend to be lowest in the early morning, and highest around 4 in the afternoon. **FOR BEST RESULTS:** If you have a fever, Hochman recommends that you take your temperature twice daily to get a clear picture: once in the morning, and once in the evening. A 2021 study published in the journal Biology tested seven thermometer types and found that the in-ear thermometer, which uses an infrared sensor to measure the temperature inside your ear canal, was the most accurate. CR tests these for accuracy, consistency, and more.

FITNESS TRACKER

A fitness tracker uses sensors to gather data about your physical activity and usually syncs wirelessly with a smartphone app. These range from simple clip-on devices to expensive watches with high-definition screens.

MORE TOP-NOTCH TOOLS

BLOOD PRESSURE MONITOR

✓ **Omron Silver BP5250 (Amazon)** $47

85 OVERALL SCORE

DIGITAL SCALE

✓ **WW WW26** $20

88 OVERALL SCORE

FITNESS TRACKER

✓ **Garmin Vivomove Trend** $270

81 OVERALL SCORE

DIGITAL THERMOMETER

✓ **Alcedo** $25

84 OVERALL SCORE

WORSE BETTER

✓ CR RECOMMENDED

WHO IT'S USEFUL FOR: Anyone who wants to know more about how much exercise they're actually getting, or who is trying to increase their activity level. (Aim for at least 150 minutes of moderate-intensity or 75 minutes of high-intensity activity per week, along with two muscle-strengthening workouts.) "Many also have the ability to track changes in your heart rate, which is a good way to see if you are improving in your fitness levels," says Cedric Bryant, PhD, president and chief science officer of the American Council on Exercise.

FOR BEST RESULTS: To stay in the know on your activity levels, you'll need to have a fitness tracker with you any time you're on the move–and if you don't want an extra device, check your smartphone or smartwatch to see if it has the functions you're seeking. (These may be found in an Apple Health, Google Fit, or Samsung Health app.) For many people, a fitness tracker or smartphone that only counts steps or minutes of activity may be sufficient. And with either, you can typically set and easily change your goals for steps, length of activity, distance, or stairs climbed per day. For heart rate data, what trackers provide is often an estimate. So they're best used as a way of monitoring changes in your fitness level, Bryant says. (CR's fitness tracker ratings include an assessment of heart rate monitoring accuracy.)

BATHROOM SCALE

Some scales simply tell you how much you weigh, which is generally enough information for most people. But so-called smart scales may also calculate the percentage of your weight that comes from fat or your body mass index, or BMI–a weight measure that has drawn criticism recently. Among other issues, BMI doesn't distinguish among muscle, fat, and bone mass, so it might not provide much insight.

PHOTO, PREVIOUS SPREAD: PROP STYLING BY SOPHIA PAPPAS. PHOTOS, THIS PAGE: SCOTT MEADOWS/CONSUMER REPORTS (BLOOD PRESSURE MONITOR, THERMOMETER); MANUFACTURERS

How Often Should You See a Doctor?

An annual physical is often touted as crucial. But do you need one? A 2021 review published in JAMA found that while general health checks weren't associated with lower rates of death, heart attack, stroke, or cardiovascular disease, there were some clear benefits. Annual checkups were associated with increased detection of issues such as depression and high blood pressure, greater use of important screening tests for conditions such as colon or cervical cancer, and better quality of life.

Regular check-ins, even if not quite annual, are "a way for you and your doctor to catch up on your health history in a more relaxed setting," says Michael Hochman, MD, MPH, a Los Angeles internist. It's also a good time to make sure you're up to date on health screenings and vaccinations. "You can ward off a slew of problems—including costly, time-consuming medical visits—further down the road," Hochman says.

If you're under age 50, with no underlying medical conditions, guidelines don't say you have to see a doctor annually. But if you're 50 or older, it may be unwise to skip that yearly exam. And if you take any meds or have a chronic issue such as high blood pressure, elevated cholesterol, or type 2 diabetes, you really need an annual checkup, says Steven Furr, MD, president of the American Academy of Family Physicians. Most likely, you'll need to be seen two or three times a year.

ILLUSTRATIONS BY CHRIS VAN ROOYEN

WHO IT'S USEFUL FOR: People who are trying to lose or maintain weight may be the primary users of bathroom scales. But these increasingly sleek tools are also essential for anyone with heart failure, because even small changes in weight can be an important warning sign of related problems, such as fluid retention. For weight loss, some research finds that people who get on the scale daily are more successful than those who do so only once or a few times a week. "It's one of the most useful tools in weight management there is," says Kullgren at the University of Michigan Medical School. Other research suggests that weighing yourself regularly may lead to unhealthy eating habits.

FOR BEST RESULTS: Weighing yourself first thing in the morning tends to be most accurate because you haven't had anything to eat or drink overnight, Kullgren says. Some fluctuation is normal. If you have heart failure and gain more than 2 or 3 pounds in a 24-hour period, or more than 5 pounds in a week, it may be because of fluid retention. Unexpected weight loss in people with heart failure could be a sign that the condition has progressed. In either case, notify your doctor.

ALSO WORTH CONSIDERING …

Want more health-tracking options in your toolbox? Here are a few others you might find helpful.

ONLINE HEARING TEST

This can be useful for anyone who wants to get a general sense of their hearing ability, says Catherine Palmer, PhD, director of audiology at the University of Pittsburgh Medical Center. You can take one such test in an app from the World Health Organization; search for hearWHO in your app store. Get more on this at **CR.org/hearingtests**.

DYNAMOMETER

This handheld tool lets you do a grip-strength test, a good gauge of overall muscle strength for adults over 65. A healthy minimum squeeze in older adults is about 73 pounds for men, and 44 for women. If yours is below that, ask your doctor about a strength training plan or physical therapy.

BLOOD GLUCOSE MONITOR

Using a drop of blood, this device can check your blood sugar level. Glucose monitors are essential for people who use insulin, and very helpful for tracking how those with diabetes and prediabetes respond to certain foods. They've also been marketed to people without diabetes, but no research shows that they're beneficial for this group, says Steven Furr, MD, president of the American Academy of Family Physicians.

CARDIO MACHINE

Anyone who wants to track their fitness level during their workout may find a treadmill or an exercise bike useful. These can typically determine your heart rate during a workout, an important metric of your overall physical health. Ideally, use a machine with a chest strap heart rate monitor, rather than handgrip sensors, which tend to be less accurate. "Over time, as you become more fit, your heart rate should begin to gradually decrease," says Cedric Bryant, PhD, at the American Council on Exercise. Pay attention to how easily you can breathe while exercising; any increase in your shortness of breath without an increase in your usual intensity warrants a call to the doctor. Any chest pain could signal it's time for a heart workup.

Checking the Claims on Home Health Products

Whether you're shopping for a thermometer or a DIY diagnostic test for urinary tract infections, it can be hard to know what's useful and what may be misleading, defective, or a waste of money. Some key tips before you click "buy now":

- **Be wary of "FDA Registered" and "FDA Certified" claims.** Phrases like these may imply that a product has undergone a Food and Drug Administration review. But the first term just means the manufacturer registers the facility where it's made yearly with the FDA, not that the product has been approved or cleared. As for the second claim, the agency doesn't certify products or issue registration certificates.
- **Search the FDA's site.** You can find out whether a device has been cleared by the agency by checking its device database (search for "Devices@FDA" to find it). This means a company has demonstrated that the device is comparable to a product the FDA has already carefully vetted. You can do the same for home medical tests through the FDA's database of at-home tests (search for "IVD lab tests database"). Enter a term such as the type of test (for example, "urinary tract infection"), its name, or the company, then click "Search."
- **Check tests for CLIA certification.** For at-home tests you send back to a lab to be analyzed, such as a genetic test, check the

But You Can Skip …

Some tests or devices that sound like they could be helpful might not actually provide you with information that's useful.

SLEEP TRACKER

Various apps and gadgets let you measure everything from sleep duration and sleep quality to snoring. But a 2019 review questioned the accuracy of these devices. Research also suggests they can stress you out and make it harder to sleep. "I have seen a lot of worry from them," says Hochman, the Los Angeles internist. "They're supposed to motivate you to adopt better sleep habits, not cause anxiety."

CHOLESTEROL TEST

These home blood tests measure what's called total cholesterol. Some also check levels of your HDL ("good") cholesterol and triglycerides, a type of fat found in your blood. They can be about as accurate as the test your doctor uses, according to the Food and Drug Administration. (They do vary from brand to brand, so the FDA recommends checking the accuracy listed on a test's package.) But most of the time it simply doesn't make sense to do this test at home. Unlike a home test, a doctor-ordered cholesterol test is usually covered by insurance, says Goldberg at the NYU Grossman School of Medicine, and you'll need to go over the results with your doctor anyway.

MENOPAUSE TEST

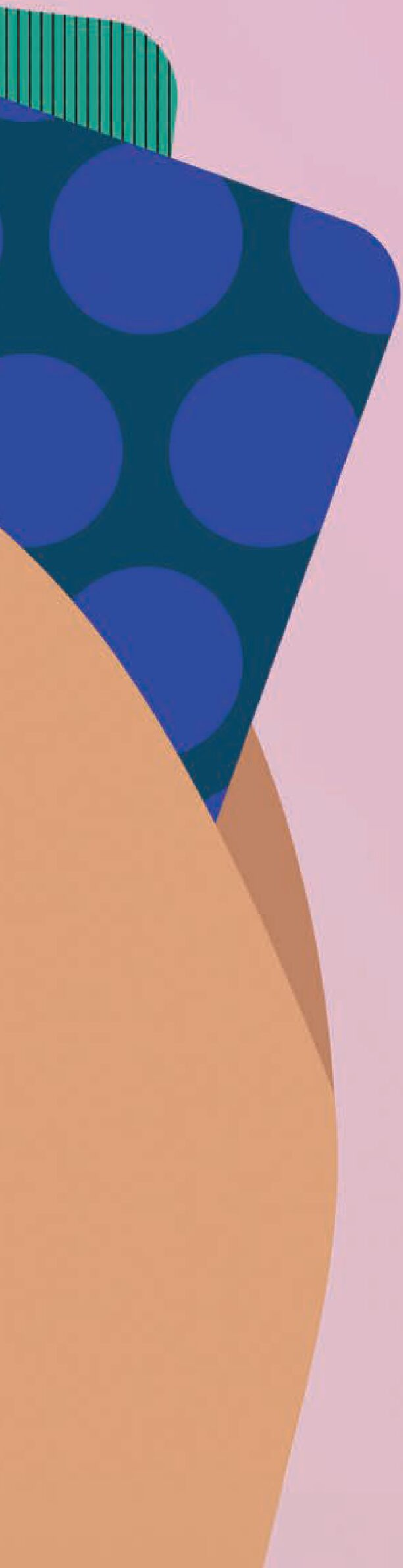
At-home hormone tests can check either your urine—for levels of a reproductive hormone called FSH—or your blood, for levels of other female hormones, such as estradiol. But "they only measure hormones in one snapshot of time," Furr says. "When you're going through menopause, your hormones may be all over the place. You won't get an accurate picture." Plus, you can work with your doctor on potential treatments based on your symptoms alone.

GENETIC TEST

These saliva tests are sometimes marketed as a way to assess your risk of Alzheimer's disease, cancer, and more. But most are not regulated by the FDA, so you might not be able to trust the findings. And some offer results only about gene variants common in specific ethnic groups—so depending on your background, they may be worthless for you, says Joy Larsen Haidle, MS, past president of the National Society of Genetic Counselors. The tests can also provide a false sense of security—or propel you into an unnecessary state of alarm. Plus, there are significant privacy concerns when you send your saliva off in the mail; you might not know where or how your data is used. Such testing needs to be done with a genetic counselor, to help you properly interpret results, Haidle says. (For more, see **CR.org/geneticprivacy**.)

label or online description to make sure the lab is "CLIA certified." This means that the test meets federal quality standards and that the lab undergoes regular inspections. Consider that a bare minimum.

- **Talk to your medical provider.** They can help you think through a potential purchase or may know of an easier, less expensive way to get the answers you're interested in. For example, your doctor could order a test to check your cholesterol levels, rather than have you buy one yourself. Or they may have specific recommendations about home monitoring devices so you're not left to comparison shop on your own.



CREDIT CARDS WITH THE BEST PERKS

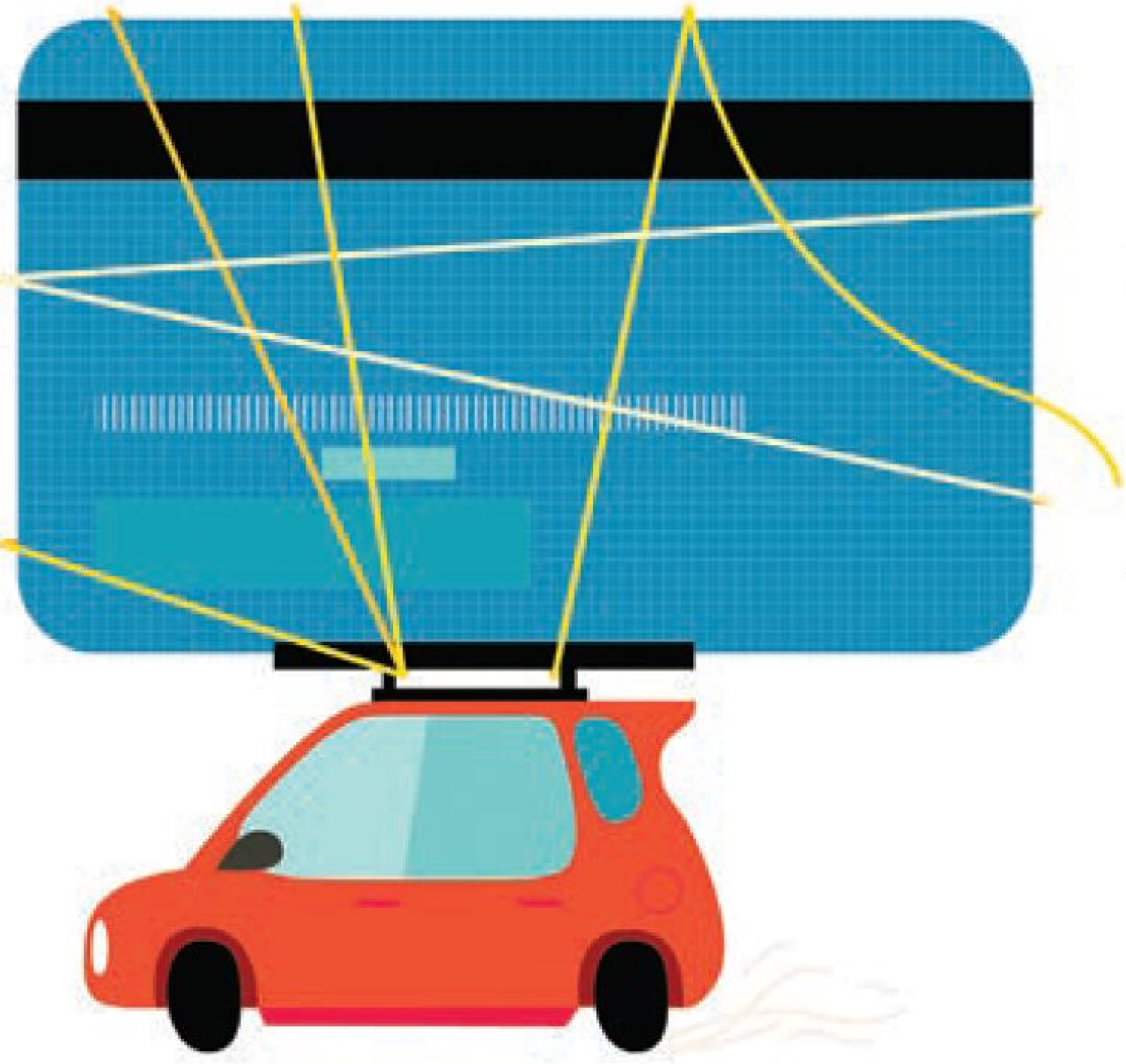
The right cards can put hundreds—even thousands—of dollars back in your pocket.

BY AMANDA WALKER | **ILLUSTRATIONS BY ALEX EBEN MEYER**

THERE ARE MORE than 1,000 credit cards out there that offer rewards. With these, you get something in return each time you spend, usually cash back and sometimes points or miles (as with airline-branded cards). But how do you choose the best one (or two, or maybe three or more) for you?

If you carry balances on your credit cards, this is not a question even worth asking, because any reward you earn will be offset by interest charges and late fees. But if you pay in full every month, look for cards that most generously reward you for the kind of charging you usually do.

Do you spend heavily on travel? Dining out? Entertainment? On gas or groceries? Check out the cards below, organized by spending styles, to find the ones that will reward you the most.



Road Tripper

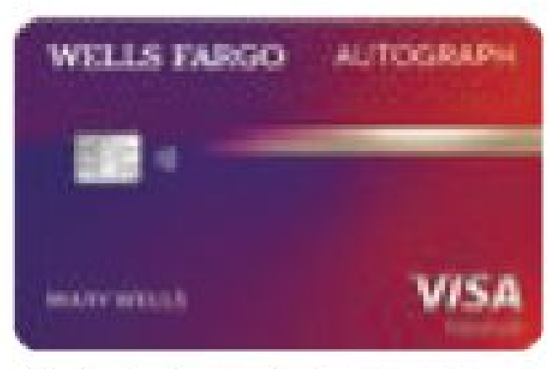
IF A LARGE chunk of your monthly expenses goes to gas and related road trip charges, and you usually visit just one company's stations, you may be tempted to get its rewards card. For example, the **Exxon Mobil Smart Card+** saves you 12 cents a gallon on premium fuel, 10 cents on other grades. "The drawback is you are typically limited to earning rewards at only Exxon Mobil locations," says Nick Ewen, senior editorial director for the travel site The Points Guy.

Want more choice? Then consider

the **Wells Fargo Autograph Card.** It charges no annual fee and offers an unlimited 3 points earned on each dollar spent on gas and at electric vehicle charging stations, as well as for parking, tolls, garages, train trips, subways, taxis, limousines, and ferries. It offers the same 3 points earned on hotels, car rentals, flights, restaurants, and streaming services, which include Apple TV+, Disney+, and Hulu. There are no reward limits.

If you belong to a warehouse club, you can earn generous rewards at gas stations with its credit card. For example, **Costco Anywhere Visa** gives you 4 percent cash back on gas (and EV charging) at any eligible gas station up to $7,000 annually. Plus you get 3 percent back on restaurants, car rentals, airfare, hotels, cruise lines, and trips booked through Costco Travel (1 percent on other purchases). Basic annual membership in the club is $60. **Sam's Club Mastercard** gives 5 percent cash back on gas up to $6,000 annually (1 percent back on additional gas spending), plus 3 percent back on dining and takeout (1 percent on purchases at Sam's Club and elsewhere). Basic annual membership is $50. **BJ's One Mastercard** nets you 10 cents off a gallon of BJ's gas for its $55 membership, plus 3 percent cash back on most BJ's purchases (1.5 percent spent elsewhere).

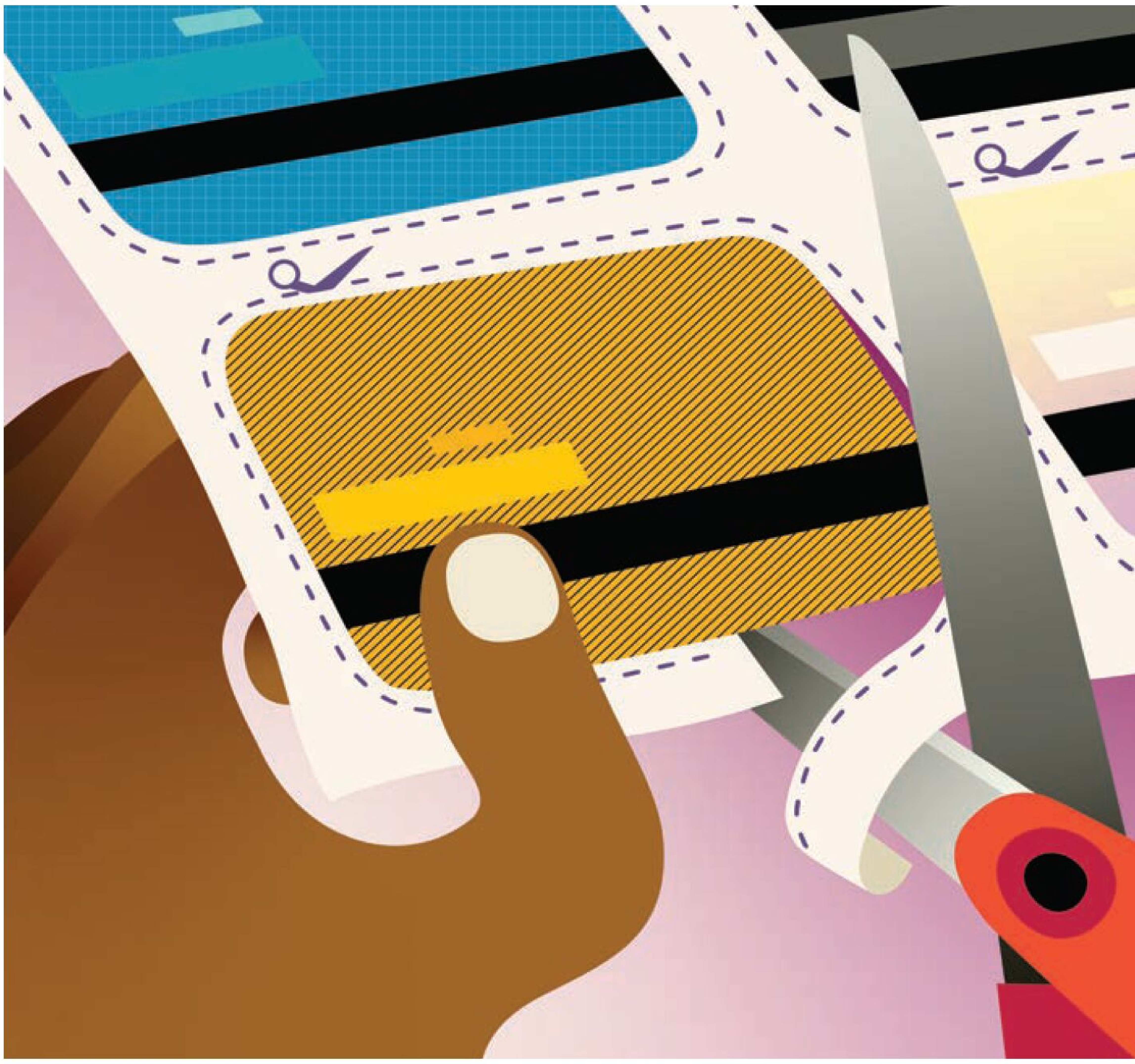
EXXON MOBIL SMART CARD+


WELLS FARGO AUTOGRAPH CARD

SAM'S CLUB MASTERCARD

COSTCO ANYWHERE VISA

BJ's ONE MASTERCARD



SPECIAL PERKS YOU MIGHT NOT KNOW ABOUT

The credit cards you currently have could have perks you're not even aware of. For specifics on your card, check your issuer's website or app, or call the number on the back. Some possibilities:

Cell Phone Insurance

This can keep you from having to pay the full cost of a replacement phone if yours is stolen or damaged and you've exhausted other insurance you hold (i.e., homeowners, renters, and automobile). You have to use the card to pay your phone bill. Mastercard offers cell phone insurance with most World and World Elite cards, and American Express offers it with several of its premium cards. It's included with all Wells Fargo consumer cards.

Typically the card will pay a set amount per incident

Discount Seeker

IF YOU'RE SOMEONE who appreciates having a card that partners with a large and varying array of retailers (often high-end) for special shopping discounts, consider the **U.S. Bank Shopper Cash Rewards Visa Signature Card.** You earn 6 percent cash back at two retailers you choose each quarter, up to $1,500 each quarter (1.5 percent cash back on additional charges). Retailers recently included Apple, Amazon, Chewy, Crate & Barrel, Ikea, Lululemon, Nordstrom, Restoration Hardware, and Williams Sonoma. You can also get 3 percent back each quarter (up to $1,500) on an everyday purchase category you choose, including wholesale clubs, gas and EV charging stations, or utility bills (then 1.5 percent cash back on other purchases). You also earn 1.5 percent cash back when you shop at over 1,100 online retailers through its shopping portal. There's no annual fee for the first year, then it's $95.

If you have a PayPal account, the **PayPal Cashback Mastercard** gives you 3 percent unlimited cash back at the more than a million merchants online or in stores, plus 2 percent back anywhere Mastercard is accepted.

Fans of the Simon Malls, Mills, and Premium Outlets should consider the **Simon American Express** card. It provides 5 percent cash back for purchases at its more than 200 locations and 1 percent back on other purchases, up to $10,000 annually. Stores include Athleta, Armani, Brooks Brothers, and Polo Ralph Lauren.

U.S. BANK SHOPPER CASH REWARDS VISA SIGNATURE CARD

PAYPAL CASHBACK MASTERCARD

SIMON AMERICAN EXPRESS

Culture Lover

DOES A CHUNK of your credit card charges go toward tickets for theatrical and musical events? Each month, the **Citi Custom Cash Card** gives cardholders 5 percent back on the eligible spending category of their choice, one of which is live entertainment. You can earn up to $6,000 back a year on concerts, live sporting events, live theatrical productions, amusement parks,

(generally $600 to $800), often on two or three claims a year after you pay a $25 to $100 deductible.

Extended Warranty Coverage

Many cards extend the manufacturer's warranty by a year if you use the card to buy an eligible item. "My wife bought an expensive electric toothbrush with her Amex card, and it broke 6 months after the manufacturer's warranty expired," says Nick Ewen, senior editorial director for the travel site The Points Guy. "But she got the replacement cost credited back."

Price Protection

If you buy an item and within a certain time find it advertised for less, with this perk you can file a claim asking to be refunded the difference. Reimbursement caps vary by card. For example, the **Wells Fargo Visa Signature Credit Card** tops out at $250 per item and up to $1,000 a year if you find an eligible item within 60 days of the purchase date.

Purchase Protection

This can insure certain goods against theft or accidental damage for a limited time after you buy them. The coverage amount and the duration of the protection differ by card. The no-annual-fee **Chase Freedom Flex** card, for example, covers new purchases for 120 days for damage or theft up to $500 per claim and $50,000 per account. Rewards cards with high annual fees may provide more protection. For example, **Chase Sapphire Reserve,** which charges a $550 annual fee, provides coverage up to $10,000 per claim for up to $50,000 per year within 120 days of purchase.

Car Rental Coverage

Programs vary, but generally you have to pay for your rental car with a card that has this coverage and decline the insurance offered by the rental car company. The coverage that most credit cards offer, typically for damage to or theft of the rental car, kicks in after your personal auto insurance pays.

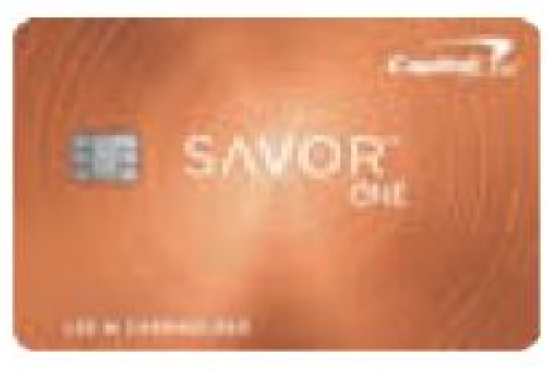
and orchestra performances. And there's no annual fee.

If you like to have early access, Capital One gives cardholders presale tickets to concerts and theatrical shows (including some on Broadway), wine and food festivals, and James Beard Foundation tastings across the country. It also offered presale tickets to the Taylor Swift Eras tour. Its **Capital One SavorOne** offers unlimited 3 percent cash back on entertainment, which includes ticket purchases made at movie theaters, sporting events, live theater, amusement parks, tourist attractions, aquariums, zoos, dance halls, pool halls, and bowling alleys. SavorOne has no annual fee. If you spend enough on cultural events to cover a $95 annual fee, the **Capital One Savor** has a similar rewards program but provides 4 percent cash back on entertainment charges.

Another option: Amex card-holders also get presale access to live theater, concerts, sporting events, dining experiences, and more. For example, cardholders were recently offered advance tickets to Coachella, the U.S. Open, the Grand Prix, and Carrie Underwood's Las Vegas show.

All **Bank of America** cardholders can take advantage of its Museums on Us program. It partners with 225 cultural institutions across the U.S., mostly museums, to provide free general admission during the first full weekend of every month.

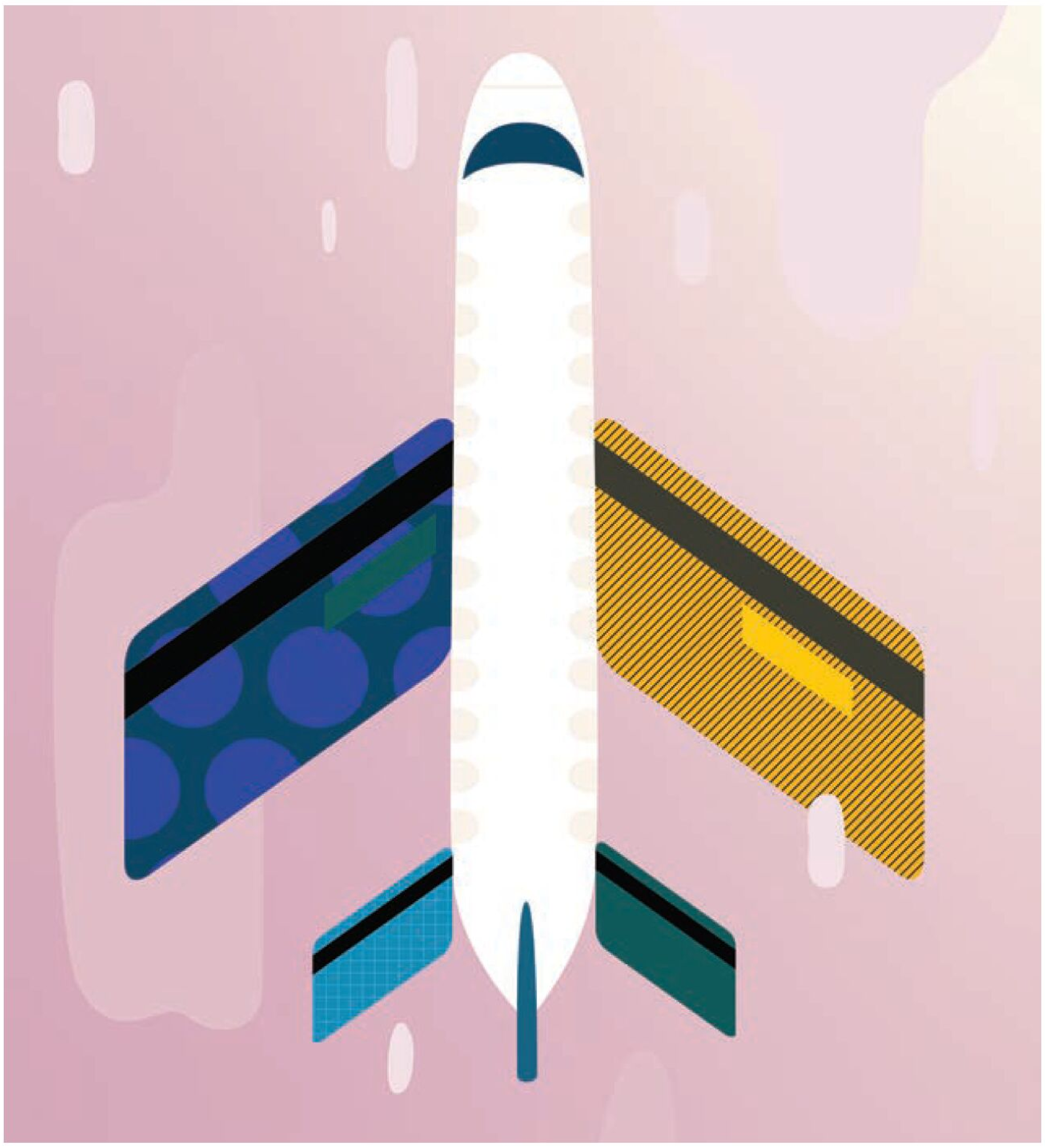
CITI CUSTOM CASH CARD



CAPITAL ONE SAVORONE

CAPITAL ONE SAVOR

BANK OF AMERICA



Avid Traveler

"IF YOU'RE SUPER LOYAL to one airline, it might make sense to get its card since they can offer perks like free checked bags and seat upgrades," says Ted Rossman, senior industry analyst at Bankrate.com. But if you're looking for a card that offers access to airport lounges, upgrades at fancy resorts, passes for early boarding, first dibs for high-end restaurant reservations, and so on, there are other options. These cards tend to have high annual fees, but when used wisely they can save you hundreds of dollars a year, if not more.

Capital One Venture X has a $395 annual fee, but every year you get a $300 credit for travel purchases if you book flights, hotels, or rental cars through Capital One Travel. You'll also get 10 miles per dollar spent booking those hotels and rental cars, 5 miles per dollar spent to book flights, plus 2 miles on all other charges. And you'll get 10,000 bonus miles (equal to $100 toward travel) every year, starting on your first anniversary. The card provides up to a $100 credit every four years for Global Entry or TSA PreCheck, and unlimited access for you and two guests to 1,300+ lounges worldwide from Priority Pass, Plaza Premium Group, and Capital One. You also get 10 miles per dollar spent when you use its Premier Collection service to book luxury hotels, resorts, and spas around the world through Capital One, plus up to a $100 experience credit to use during your stay. Capital One miles can also be transferred to 15 airline and three hotel partners. It recently offered a bonus of 75,000 miles if you spent $4,000 in the first three months.

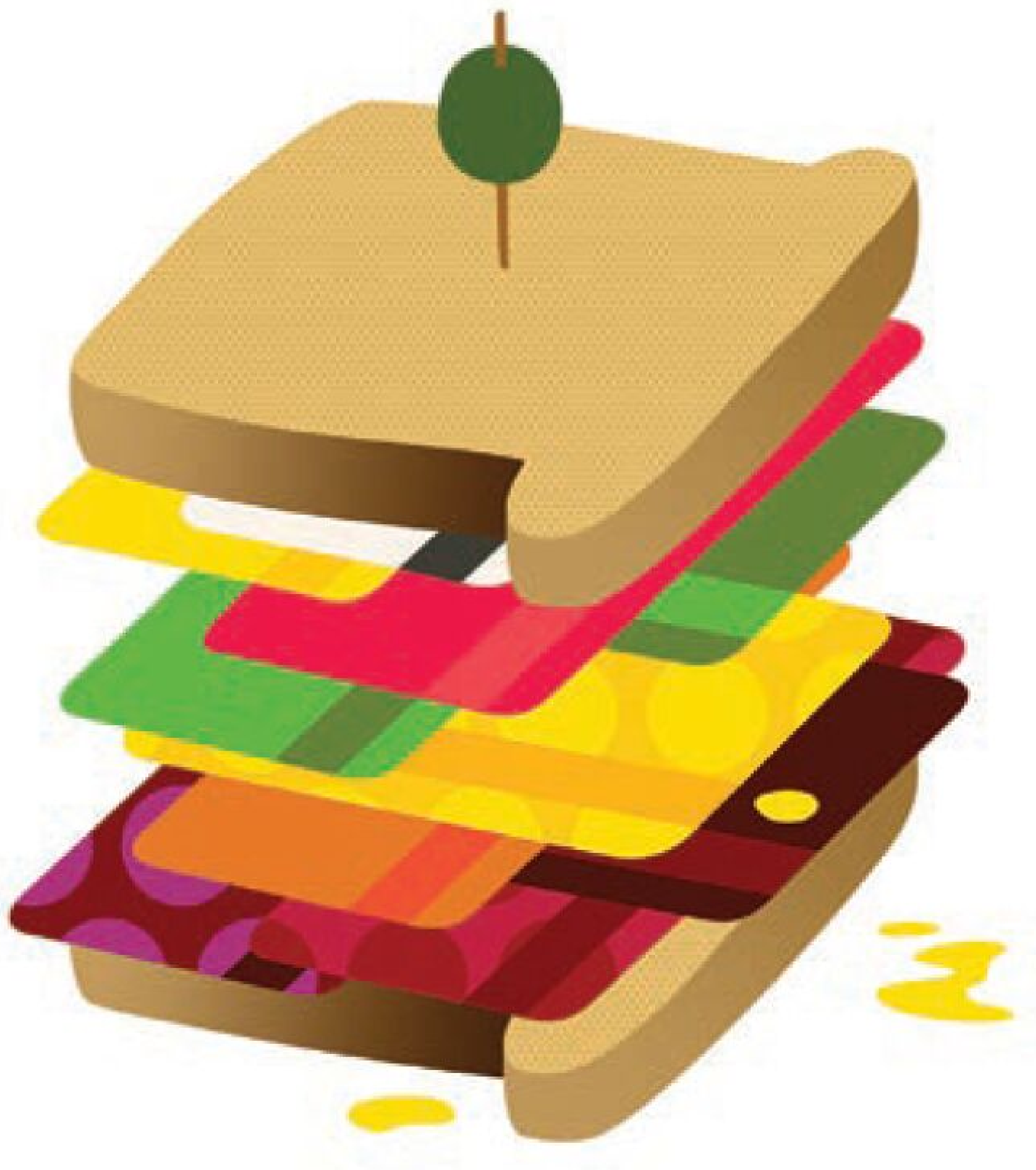
The even pricier **Chase Sapphire Reserve** is $550 a year. But the first $300 you spend on travel annually is credited back to you. Then you get 5 points on flights and 10 points on hotels and car rentals when you use your card through Chase Travel. You get 3 points per dollar spent on eligible dining, delivery services, and takeout. There's also free access to 1,300+ airport lounges worldwide with up to two guests, including Chase Sapphire Lounge by The Club and Priority Pass lounge locations. And you can transfer your points to leading airline and hotel loyalty programs at a one-to-one value. The card also provides up to $75,000 for theft and collision damage for rental cars; trip cancellation insurance up to $10,000 per person and $20,000 per trip; and trip reimbursement for travel delays of more than 6 hours or that require an overnight stay, including reimbursement of up to $500 for lodging and meals.

You also get up to $3,000 per passenger for lost or damaged luggage, plus baggage delay insurance up to $100 per day up to five days. And you get emergency medical and dental benefits, roadside assistance, and emergency evacuation coverage. Its initial bonus was recently 60,000 points if you spent $4,000 on purchases in the first three months.

CAPITAL ONE
VENTURE X

CHASE SAPPHIRE
RESERVE

Big Food Shopper



WE ALL BUY groceries, but if supermarket items are an especially big budget item for you, it pays to be rewarded for it. You'll get 6 percent cash back annually on up to $6,000 worth of groceries bought at U.S. supermarkets with the **Blue Cash Preferred Card** from American Express. It's free the first year and $95 annually after that. You also get an unlimited 6 percent back on select streaming services and an unlimited 3 percent on gas, ride-share services, tolls, parking, subways, ferries, trains, and taxis.

Another possibility, this one with no annual fee, is the **AAA Daily Advantage Visa Signature Credit Card**, which pays 5 percent cash back on groceries at supermarkets—and 3 percent at wholesale stores and gas stations—and will pay up to $500 a year in combined rewards. More of an online food shopper? The **Capital One Walmart Rewards Card** will pay 5 percent cash back on orders placed at Walmart.com for no annual fee and also pay 5 percent cash back on in-store purchases for the first 12 months when you use your card with Walmart Pay.

BLUE CASH
PREFERRED CARD

AAA DAILY
ADVANTAGE VISA
SIGNATURE

CAPITAL ONE
WALMART REWARDS

CAN YOU HAVE TOO MANY CREDIT CARDS?

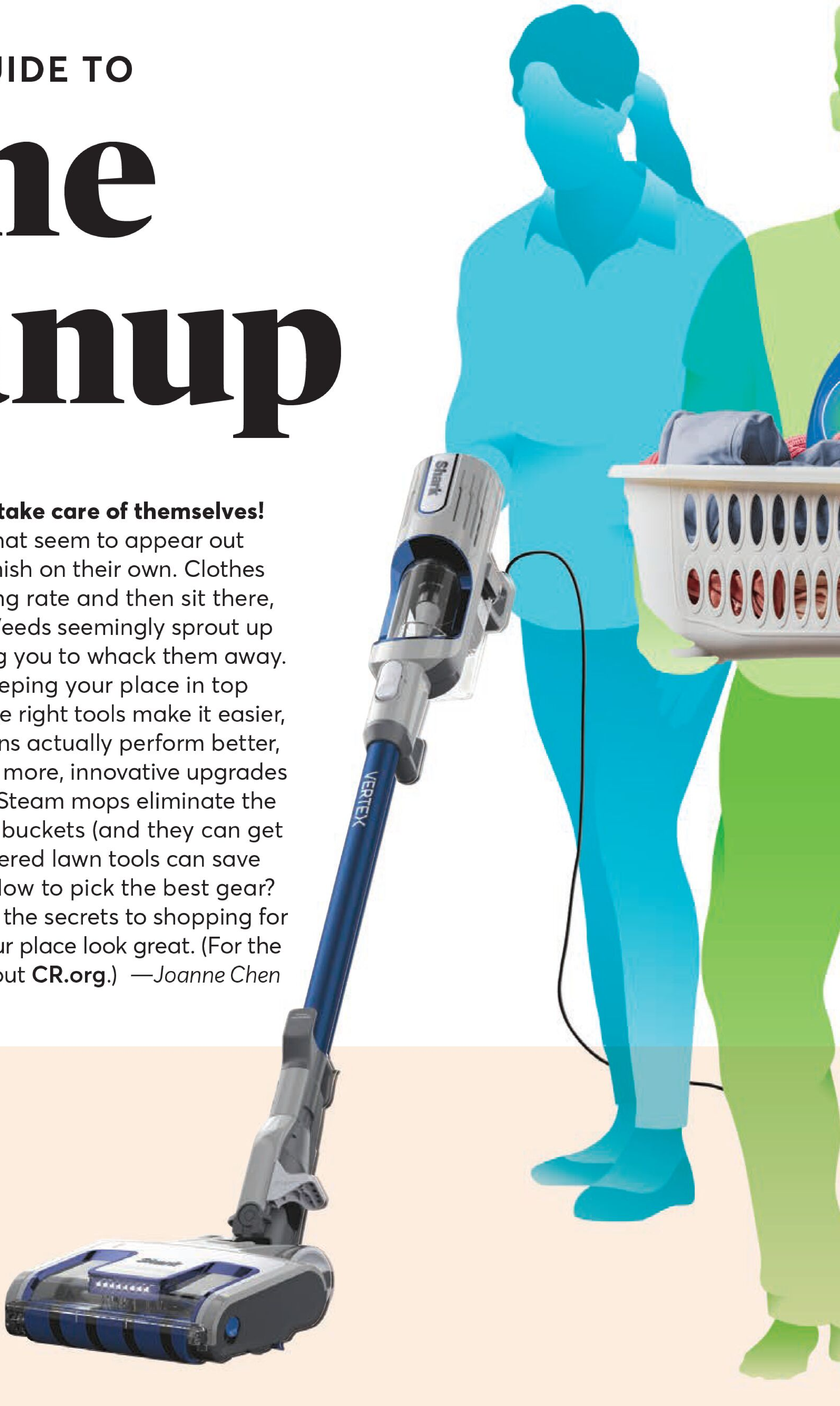
IF YOU LIKE to keep things simple, one or two no-annual-fee cards that reward your main spending styles may be right for you, says Nick Ewen of The Points Guy, a travel website. But if you're game to invest some energy into maximizing rewards across multiple cards (we're talking three or four or more) to cover more types of spending, you may find the additional savings to be significant.

Signing up for additional cards is more likely to help, not hurt, your credit score. That's because when credit is extended to you, your debt-to-credit ratio decreases. And that has a big impact on your FICO credit score. There's also no need to cancel no-fee card accounts that no longer fit your needs. Simply stop using them. But "if the card has an annual fee, call the issuer or check its website to see if it has a no-fee card that fits your current needs," says Ted Rossman of Bankrate.com. If you switch cards with the same issuer, it usually won't have an impact on your credit score. If you don't, and you decide to cancel a card, your credit score will rebound in a couple of months if you pay your bills promptly.

CR'S ULTIMATE GUIDE TO

Home Cleanup

If only our homes could take care of themselves! But those dust bunnies that seem to appear out of nowhere don't just vanish on their own. Clothes and dishes pile up at an alarming rate and then sit there, waiting for you to wash them. Weeds seemingly sprout up on your lawn overnight, requiring you to whack them away. There's no getting around it: Keeping your place in top shape can be exhausting. But the right tools make it easier, and sometimes less pricey options actually perform better, according to our testers. What's more, innovative upgrades have streamlined many chores: Steam mops eliminate the need for carrying heavy, messy buckets (and they can get floors really clean). Battery-powered lawn tools can save you on gas and maintenance. How to pick the best gear? On the next 23 pages, we reveal the secrets to shopping for everything you need to make your place look great. (For the most up-to-date ratings, check out **CR.org**.) —*Joanne Chen*



INSIDE YOUR HOME

Canister & Upright Vacuums
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ILLUSTRATION BY VANESSA BRANCHI

Keeping Rugs, Carpets & Floors Clean

Pushing a vacuum cleaner around the house isn't most people's idea of fun. But the right models can make this chore less tiresome—and get the job done better too. And a good carpet cleaner makes quick work of seasonal deep-cleaning.

CANISTER & UPRIGHT VACUUMS

● **HOW TO SHOP:** These models have the power and versatility to handle a range of tasks, from keeping carpets and hard-surface floors dirt-free to dusting shelves and curtains. With serious suction, the best are able to reach the dirt buried inside the fibers of rugs and carpets, and the grit nestled in the cracks of hardwood floors. And they do so far better than stick and robotic models can. That means fewer passes to get areas truly debris-free.

Many canisters and uprights now come with HEPA filters that keep most dust from escaping from the machine after suctioning—so you're not breathing in the particles you just removed.

Which type is right for you? Choose an upright if you have more carpeting than bare floors. Because the full weight of the vacuum sits directly over the power brush, you can more easily push it into the carpet pile to reach deep down. Uprights are also more compact and easier to store. But go with a canister if you have mostly bare floors. They excel on hard surfaces and at reaching dirt along floor edges, and they're safer to use on stairs.

Both types are available in bagged and bagless versions. Bagged models can be neater because you just toss out the bag instead of dumping dust from a bin into the trash, which can leave you with a dust cloud.

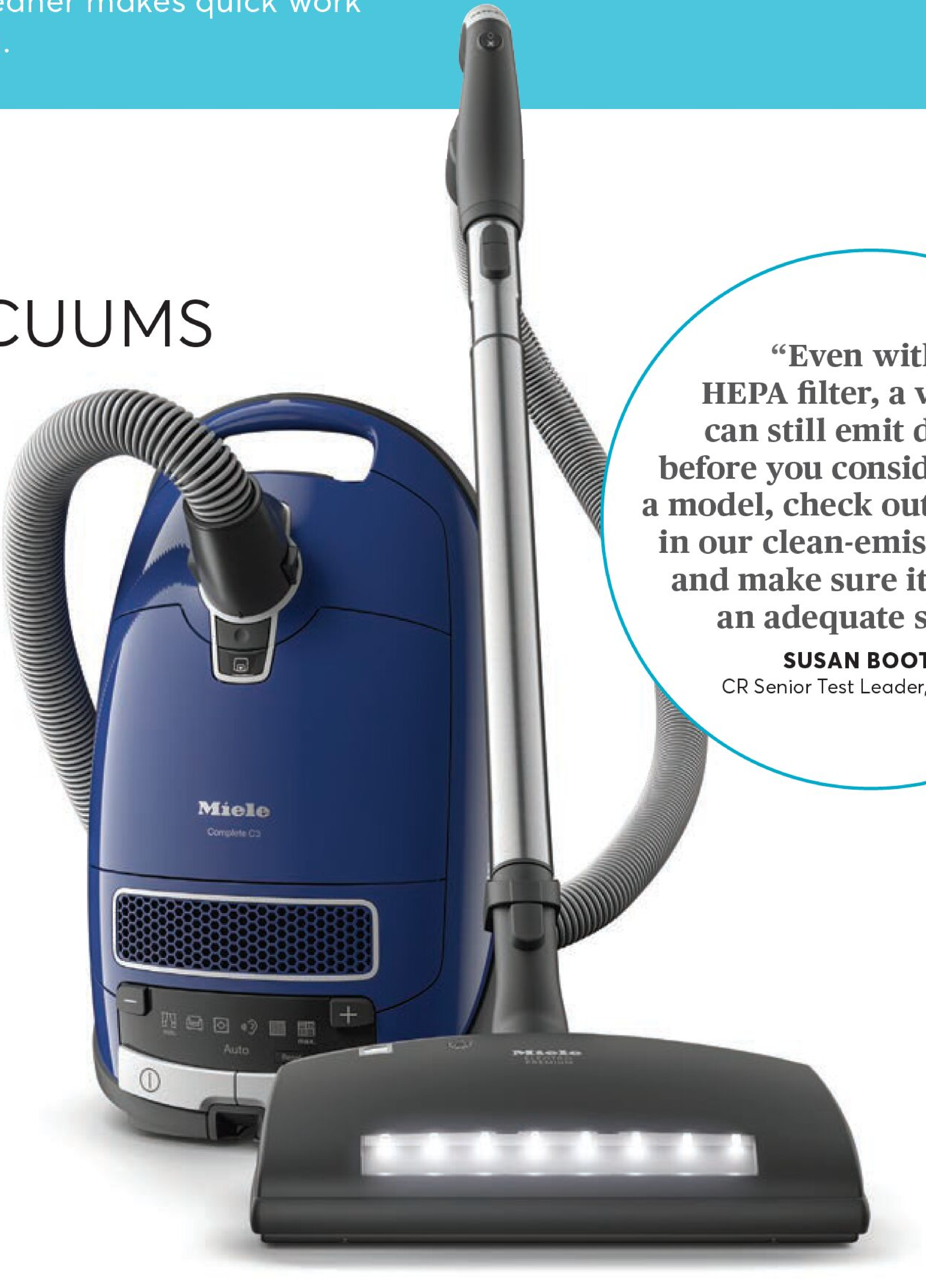
As you shop, check the hose and cord length to make sure it will reach around your rooms. Note the vac's attachments. Hoses and crevice cleaners are standard, and a longer extension wand and a soft brush come in handy for hard-to-reach spots and upholstery.

● **WHAT TO AVOID:** Some lightweight models don't have the power to clean anything but low-pile rugs and carpets. Instead, choose a heavier vacuum with a good handling score. *—Mary H.J. Farrell*

EXPERT TIP

"Even with a HEPA filter, a vacuum can still emit dust. So before you consider buying a model, check out how it did in our clean-emissions test, and make sure it received an adequate score."

SUSAN BOOTH,
CR Senior Test Leader, Vacuums



✓ Miele Complete C3 Marin

PHOTOS, PREVIOUS SPREAD: GETTY IMAGES (LAUNDRY BASKET); ADOBE STOCK (PAINT ROLLER); MANUFACTURERS. PHOTO, THIS PAGE: MIELE

	Brand + Model	Overall Score	Price	Survey Results		Test Results							Features				
				Predicted reliability	Owner satisfaction	Carpet	Bare floors	Hose suction	Clean emissions	Handling	Pet hair	Noise	Weight (lb.)	Cord length (ft.)	Brush on/off	Easy on/off	Manual pile adjust
	BAGLESS CANISTER VACUUMS																
✓	**Miele** Blizzard CX1 Cat & Dog	75	$1,000	▲▲	▲▲	▮	▲▲	▲	▲▲	▮	▲▲	▲	15	21	●	●	●
$	**Shark** Vertex CZ2001	75	$480	▲▲	▮	▮	▲▲	▲	▲▲	▮	▲▲	▲	18	25		●	
$	**Shark** Pet CZ351	74	$400	▲▲	▮	▮	▲▲	▲	▲▲	▮	▲▲	▲	17	25		●	
$	**Kenmore** 22614	72	$350	▲	▮	▲	▲▲	▲	▲	▼	▲▲	▮	23	24	●	●	●
	BAGGED CANISTER VACUUMS																
✓	**Miele** Complete C3 Marin	84	$1,300	▲▲	▲▲	▲	▲▲	▲▲	▲▲	▮	▲▲	▲	23	24	●	●	●
✓	**Kenmore** Elite Pet Friendly UltraPlush 81714	76	$530	▲	▮	▲	▲▲	▲	▲▲	▮	▲▲	▮	25	26	●	●	●
✓	**Kenmore** Elite Pet Friendly CrossOver 21814	76	$500	▲	▮	▲	▲▲	▲▲	▲▲	▼	▲	▮	26	27	●	●	●
$	**Kenmore** Pop-N-Go BC4026	76	$320	▲	▮	▲	▲▲	▲	▲	▮	▲▲	▲	22	26	●	●	●
$	**Kenmore** 200 Series BC4002	76	$250	▲	▮	▲	▲▲	▲	▲	▮	▲▲	▮	19	24	●	●	●
✓	**Kenmore** Pop-N-Go UltraPlush BC4027	74	$400	▲	▮	▮	▲▲	▲	▲▲	▮	▲▲	▲	21	26	●	●	●
$	**Kenmore** 400 Series 81414	73	$330	▲	▮	▲	▲▲	▲	▮	▮	▲▲	▮	19	25	●	●	●
$	**Kenmore** 200 Series 81214	72	$260	▲	▮	▲	▲▲	▲	▲	▮	▲▲	▮	19	24	●	●	●
✓	**Miele** Complete C3 Calima Powerline SGFE0	65	$840	▲▲	▲▲	▼	▲▲	▲▲	▲▲	▼	▲	▲	16	24		●	
	Miele Compact C1 Turbo Team Powerline SCAE0	58	$580	▲▲	▲▲	▼	▲▲	▮	▲▲	▼	▲	▲	15	18		●	
	BAGLESS UPRIGHT VACUUMS																
✓	**Shark** Stratos AZ3002	77	$500	▲	▲▲	▲	▲▲	▲▲	▲▲	▲	▲▲	▮	17	30		●	
✓	**Shark** Vertex DuoClean AZ2002	75	$480	▲	▲▲	▮	▲▲	▲▲	▲▲	▲	▲▲	▮	17	30		●	
$	**Shark** Navigator Professional NV360	74	$220	▲	▲▲	▲▲	▲▲	▲	▲▲	▼	▲▲	▲	14	25	●		
✓	**Kenmore** Pet Friendly CrossOver 31220	73	$250	▮	▮	▲	▲▲	▲	▲▲	▮	▲▲	▮	18	29	●		
✓	**Shark** Rotator Professional Lift-Away NV501	73	$260	▲	▲▲	▲	▲▲	▮	▲	▲	▮	▲	17	30	●		
✓	**Dyson** Ball Animal 2	73	$450	▮	▮	▲	▲▲	▲	▲▲	▲	▲▲	▮	17	30	●		
✓	**Dyson** Ball Multi Floor 2	73	$400	▮	▮	▲	▲▲	▲	▲▲	▲	▲▲	▼	16	31	●		
$	**Kenmore** AllergenSeal DU2012	73	$130	▮	▮	▮	▲▲	▲	▲▲	▲	▲▲	▲	15	30	●		
✓	**Shark** Navigator Professional Lift-Away NV356E	72	$250	▲	▲▲	▲	▲▲	▮	▲▲	▲	▮	▮	16	30	●		
✓	**Kenmore** Elite Pet Friendly CrossOver Ultra 31230	72	$350	▮	▮	▲	▲▲	▲	▲▲	▮	▲▲	▮	18	35	●		
$	**Shark** Navigator Lift-Away NV352	72	$200	▲	▲▲	▲	▲▲	▮	▲	▲	▮	▮	14	25	●		
$	**Shark** Navigator Lift-Away LA300	71	$200	▲	▲▲	▲	▲▲	▲	▲▲	▼	▲▲	▲	12	25			
$	**Kenmore** Pet Friendly Cross-Over DU3017	70	$180	▮	▮	▮	▲▲	▲	▲▲	▲	▲▲	▮	17	25	●		
✓	**Shark** Rotator Lift-Away ADV DuoClean LA500 (Walmart)	70	$300	▲	▲▲	▮	▲▲	▲	▲▲	▲	▲▲	▲	14	25			

▼▼ ▼ ▮ ▲ ▲▲
WORSE BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

BAGLESS UPRIGHT VACUUMS *Continued*

	Brand + Model	Overall Score	Price	Survey Results		Test Results							Features				
				Predicted reliability	Owner satisfaction	Carpet	Bare floors	Hose suction	Clean emissions	Handling	Pet hair	Noise	Weight (lb.)	Cord length (ft.)	Brush on/off	Easy on/off	Manual pile adjust
✓	**Shark** DuoClean Lift-Away Zero-M ZU881 (Target)	70	$400	↑	⇈	○	⇈	↑	⇈	○	⇈	○	17	30		●	
$	**Shark** Navigator Swivel Pro Complete NV150	70	$160	↑	⇈	○	⇈	○	⇈	⇈	⇈	↑	13	25			
	Shark Apex DuoClean Zero-M Powered Lift-Away AZ1002	69	$400	↑	⇈	○	⇈	⇈	⇈	↑	⇈	○	17	30		●	
	Hoover WindTunnel T-Series Rewind Bagless UH70120	69	$130	○	↓	↑	⇈	⇈	↑	↑	⇈	○	18	27		●	●
	Shark Rotator Lift-Away XL Zero-M ZU632	69	$330	↑	⇈	○	⇈	↑	⇈	↑	⇈	○	16	25		●	
	Kenmore DU2055	68	$180	○	○	○	⇈	↑	⇈	○	⇈	↑	14	31	●		
	Shark Rotator Pro Lift-Away DuoClean ZU780	68	$260	↑	⇈	○	⇈	↑	⇈	↑	⇈	○	17	30			
	Kenmore DU5092	67	$220	○	○	○	⇈	○	⇈	○	⇈	↑	15	31	●		
	Dyson Cinetic Big Ball Animal	67	$600	○	○	↑	⇈	○	⇈	○	○	○	19	35	●		
	Bissell Pet Hair Eraser Lift-Off 2087	67	$270	○	↓	↑	⇈	○	⇈	↑	⇈	○	18	30	●		
	Bissell Pet Hair Eraser Turbo Plus 2281	67	$260	○	↓	○	↑	○	⇈	↑	⇈	○	14	30	●		
	Hoover React Professional Pet Plus UH73220	66	$240	○	↓	↑	⇈	↑	⇈	○	○	○	19	30			
	Dyson Ball 3 Animal	65	$400	○	○	↑	⇈	↑	↑	○	⇈	○	18	36	●		●
	Dyson Cinetic Big Ball Animal + Allergy	65	$700	○	○	○	⇈	○	⇈	○	○	○	19	35	●		
	Hoover React UH73100	65	$180	○	↓	↑	⇈	↑	↑	○	↑	○	18	25			
	Shark Navigator Pet Pro ZU62	64	$230	↑	⇈	↓	⇈	○	⇈	↑	⇈	○	15	25			
	Bissell MultiClean Allergen Pet 2849	64	$180	○	↓	○	⇈	○	⇈	↑	⇈	○	14	30	●		
	Hoover PowerDrive Pet UH74210PC	63	$200	○	↓	○	⇈	○	↑	○	⇈	○	17	30	●		
	Hoover Total Home Pet UH74100	62	$140	○	↓	↑	⇈	↑	⇈	○	⇈	○	18	27	●		●
	Bissell MultiClean Allergen Pet Lift-Off 2998	62	$220	○	↓	○	⇈	○	⇈	↑	⇈	○	15	30	●		
	Hoover Air Steerable UH72400	60	$190	○	↓	○	⇈	↓	⇈	↑	↑	○	14	29	●		
	Hoover MaxLife Pro Pet Swivel UH74220PC	59	$200	○	↓	○	⇈	○	⇈	↑	⇈	○	17	30	●		
	Bissell Pet Hair Eraser Turbo Rewind 27909	59	$260	○	↓	○	○	○	↑	↑	⇈	○	16	25	●		
	Dyson Small Ball Multi Floor	59	$400	○	○	○	⇈	↓	⇈	↑	○	↑	13	32	●		
	Hoover High Performance Swivel XL Pet UH75200	58	$180	○	↓	○	⇈	○	⇈	○	⇈	○	16	30		●	●
	Hoover Pet Max Complete UH74110	57	$180	○	↓	○	⇈	○	⇈	○	⇈	○	17	30			●
	Bissell MultiClean Allergen Lift-Off Pet Slim 31259	56	$240	○	↓	↓	⇈	○	⇈	↑	⇈	○	15	25	●		
	Bissell PowerLifter Swivel Lift-Off Pet 2920 (Walmart)	53	$160	○	↓	↓	⇈	↓	⇈	↑	⇈	○	16	30	●		
	Hoover MaxLife PowerDrive Swivel XL UH75110	53	$120	○	↓	○	⇈	○	↑	↓	⇈	○	16	27		●	●
	Shark Ion P50 Cord-Free Powered Lift-Away IC162	52	$450	↑	⇈	↓	⇈	⇊	⇈	↑	⇈	↑	12	0		●	
	Bissell AeroSwift 2612A	52	$85	○	↓	↓	⇈	○	⇊	⇈	⇈	○	10	30		●	●

Brand + Model	Overall Score	Price	Survey Results		Test Results							Features				
			Predicted reliability	Owner satisfaction	Carpet	Bare floors	Hose suction	Clean emissions	Handling	Pet hair	Noise	Weight (lb.)	Cord length (ft.)	Brush on/off	Easy on/off	Manual pile adjust
BAGLESS UPRIGHT VACUUMS *Continued*																
Bissell SurfaceSense Pet Multi-Surface 2817	51	$300	I	↓	↓	⇈	↓	I	↑	⇈	I	16	30	●		
Bissell PowerGlide Lift-Off Pet 2043	50	$170	I	↓	I	I	↓	↓	I	⇈	↓	18	30	●		
Hoover Elite Rewind Plus UH71200	48	$120	I	↓	↓	⇈	↓	⇈	I	⇈	I	18	23			●
Black+Decker AirSwivel BDASV102	48	$80	I	⇊	I	I	⇊	I	⇈	⇈	I	11	30		●	
Dirt Devil Endura Max XL UD70182	47	$95	I	⇊	↓	I	I	⇊	↑	⇈	I	13	25		●	●
Dirt Devil Power Max Rewind Pet UD70187	46	$85	I	⇊	↓	I	I	⇊	↑	⇈	I	14	22		●	●
Bissell CleanView Rewind 3534	45	$130	I	↓	↓	⇈	I	⇊	↓	⇈	I	13	24		●	●
Dirt Devil Endura Pro Pet UD70188	44	$90	I	⇊	↓	I	I	⇊	↑	↑	↓	14	25		●	●
Dirt Devil Endura Max UD70174	44	$65	I	⇊	↓	I	↓	⇊	↑	⇈	I	13	24		●	●
Hoover Onepwr Evolve Pet BH53420PC	40	$200	I	↓	I	⇈	⇊	⇊	↑	⇈	I	8	NA	●		
Dirt Devil Power Max Pet UD76710	39	$80	I	⇊	↓	I	↓	I	I	⇈	↓	13	24		●	●
BAGGED UPRIGHT VACUUMS																
$ **Kenmore** Elite Pet Friendly 31150	77	$350	I	I	↑	⇈	⇈	⇈	I	↑	I	21	35	●	●	●
$ **Kenmore** BU1018	75	$350	I	I	↑	⇈	⇈	⇈	I	⇈	↓	21	30		●	●
✓ **Kirby** Avalir 2	74	$1,600	↑	↓	⇈	⇈	↑	⇈	↓	⇈	↓	23	29	●	●	●
$ **Kenmore** Pet Friendly 31140	73	$280	I	I	↑	⇈	⇈	⇈	I	⇈	I	20	29	●	●	●
$ **Hoover** WindTunnel Max UH30600	69	$200	I	↓	↑	⇈	↑	↑	I	⇈	I	17	29	●	●	●
$ **Kenmore** Intuition BU4050	69	$180	I	I	↑	⇈	I	⇈	I	⇈	I	15	30	●		
$ **Kenmore** Intuition BU4022	68	$200	I	I	I	⇈	↑	⇈	I	⇈	I	15	30	●		
Oreck Elevate Command	61	$450	I	I	↑	⇈	↓	⇈	⇈	⇈	I	11	30		●	
Oreck Elevate Conquer	60	$600	I	I	↑	⇈	↓	⇈	⇈	⇈	I	12	35		●	
Oreck Magnesium	59	$500	I	I	↑	⇈	↓	⇈	⇈	↑	I	9	30			
Hoover Complete Performance UH30601	58	$190	I	↓	I	⇈	↑	↑	↑	⇈	↓	16	30			●
Oreck Elevate Control	54	$300	I	I	I	⇈	↓	↑	⇈	⇈	↓	10	30		●	
Oreck HEPA UK30205PC	49	$350	I	I	↑	⇈	⇊	⇈	⇈	⇈	I	11	30		●	
Oreck HEPA UK30305PC	48	$400	I	I	I	⇈	⇊	⇈	⇈	⇈	I	11	35		●	
Hoover Onepwr HEPA+ BH55500PC	46	$300	I	↓	I	⇈	⇊	⇈	⇈	⇈	↑	11	NA		●	

HOW WE TEST: **Overall Score** is based on performance ratings, along with scores for **predicted reliability** (which estimates the likelihood that newly purchased models will develop problems or break within the first five years of ownership, according to our member surveys) and **owner satisfaction** (the proportion of CR members who are extremely likely to recommend their vacuum). We evaluate canister and upright vacuums on medium-pile **carpet** and **bare floors.** We test for **clean emissions** by filling the bin or bag with wood flour and measuring how much is released while vacuuming a carpet and while standing with the motor on. We score **handling**—how easy the vacs are to push, pull, and carry—and the convenience of their features. We measure **noise** with a decibel meter.

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WORSE —— BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

STICK, HANDHELD & ROBOTIC VACUUMS

● **HOW TO SHOP:** If you live in a small space without much carpet or you want a lightweight vacuum to handle minor messes—a dusting of flour on the floor after baking, for example—consider a stick vacuum. Cordless models can give you more freedom of movement, but you'll have to find a place for the charger (many can be hung on a wall). Battery run times vary; compare them by looking at our ratings. Also, our members have reported problems with batteries that lose their charge over time, so pick a stick that comes with two batteries or a battery that can be replaced.

Handhelds are even easier to grab for a quick cleanup. Take a look at the removable dust container before you buy and make sure that it will hold about the equivalent of a couple of cups of cereal—otherwise you'll have to empty it repeatedly as you clean. If you're looking for one for your car, make sure that the nozzle will fit between the seats (or that the vac has a tool that will).

If you want some help for light vacuuming, a robotic vacuum could do the trick—but most don't have enough suction to tackle embedded dirt. Make sure you have space in an out-of-the-way spot for its charging dock, which can take up a couple of square feet. Look at the navigation score in our ratings, which tells how well a model avoids obstacles and covers a room. And if you plan on using the WiFi feature (which allows you to do things like adjust cleaning settings), check the data privacy and data security scores.

● **WHAT TO AVOID:** Don't be tempted by stick vacs that cost less than $100. They tend to not have much power or battery life. —*M.F.*

EXPERT TIP

> **"If you have a larger home and still want the convenience of a cordless stick vac, it's particularly important to pick one that has a longer run time, comes with a second battery, or has a battery you can replace as the first one wears out."**
>
> **FRANK RIZZI,**
> CR Assistant Test Leader,
> Vacuums

✓ **Shark Vertex Ultralight HZ2002**

Brand + Model	**Overall Score**	**Price**	**Survey Results**		**Test Results**						**Features**					
			Predicted reliability	Owner satisfaction	Carpet	Bare floors	Edges	Noise	Pet hair	Clean emissions	Run time (min.)	Charge time (hr.)	Weight (lb.)	Cord length (ft.)	Battery type	Brush on/off
CORDED STICK VACS																
✓ **Shark** Vertex Ultralight HZ2002	76	$260	⇈	↑	!	⇈	↑	↑	⇈	!	NA	NA	9.0	30.0	NA	
Bissell CleanView Pet Slim 28311	54	$180	⇈	!	↓	↓	↓	⇈	↑	⇊	NA	NA	9.4	30.0	NA	●
Bissell Featherweight PowerBrush 2773A	48	$50	⇈	!	⇊	↑	⇈	⇈	!	↑	NA	NA	4.05	18.0	NA	
Bissell Featherweight 2033M	48	$35	⇈	!	⇊	↑	↑	⇈	↑	!	NA	NA	3.0	15.0	NA	Brushless model
Dirt Devil Power Stick Lite SD22030	43	$40	!	⇊	⇊	↑	!	!	⇈	!	NA	NA	4.2	18.0	NA	●
Dirt Devil Vibe SD20020	31	$50	!	⇊	⇊	↓	↓	↑	!	!	NA	NA	4.1	16.5	NA	●

PHOTO: CONSUMER REPORTS

Brand + Model	Overall Score	Price	Survey Results		Test Results						Features					
			Predicted reliability	Owner satisfaction	Carpet	Bare floors	Edges	Noise	Pet hair	Clean emissions	Run time (min.)	Charge time (hr.)	Weight (lb.)	Cord length (ft.)	Battery type	Brush on/off
CORDLESS STICK VACS																
Samsung Bespoke Jet AI VS28C9762UK/AA	81	$900	–	–	↑	⇈	⇈	⇈	⇈	↑	47	6	7.0	NA	25.2-volt lithium-ion	
Miele Triflex HX2	77	$750	–	–	○	⇈	⇈	⇈	⇈	↑	17	4	8.0	NA	Lithium-ion	
Miele Triflex HX1 Facelift SMUL1	77	$600	–	–	○	⇈	⇈	⇈	⇈	⇈	25	4	8.0	NA	Lithium-ion	
Shark Vertex Pro IZ662H	75	$450	○	↑	○	⇈	⇈	↑	⇈	⇈	35	4	8.9	NA	Lithium-ion	
Shark Stratos IZ862H	75	$500	○	↑	○	⇈	⇈	↑	↑	↑	40	4	8.9	NA	25.2-volt lithium-ion	
Dyson Outsize+	72	$900	↓	↑	↑	⇈	⇈	⇈	⇈	⇈	38	5	7.8	NA	25.2-volt lithium-ion	
Dyson V15 Detect+ Cordless	71	$750	↓	↑	↑	⇈	⇈	⇈	⇈	⇈	35	5	7.1	NA	25.2-volt lithium-ion	
Hoover Onepwr Blade Max BH53350	71	$350	○	○	○	⇈	⇈	↑	⇈	↑	23	4	5.6	NA	20-volt lithium-ion	
Dyson Gen5detect	71	$950	↓	↑	↑	⇈	⇈	⇈	⇈	⇈	35	5	7.6	NA	36-volt lithium-ion	
Tineco Pure One S12	71	$600	–	–	○	↑	⇈	⇈	⇈	⇈	17	4	6.6	NA	21.6-volt lithium-ion	
Dyson Gen5outsize	70	$1,050	↓	↑	↑	⇈	⇈	⇈	⇈	⇈	36	5	8.5	NA	36-volt lithium-ion	
Miele Triflex HX1 SMUL0	70	$500	–	–	↓	⇈	⇈	⇈	⇈	⇈	24	4	8.0	NA	Lithium-ion	
Dyson V11 Outsize	69	$800	↓	↑	○	⇈	⇈	↑	⇈	⇈	41	5	7.9	NA	25.2-volt lithium-ion	
Dyson V15 Detect	69	$700	↓	↑	○	⇈	⇈	⇈	⇈	⇈	35	5	6.85	NA	25.2-volt lithium-ion	
Shark Vertex Ultra IZ462H	68	$350	○	↑	↓	⇈	↑	↑	⇈	⇈	30	3	9.0	NA	Lithium-ion	
Dyson V8 Absolute	67	$500	↓	↑	○	⇈	⇈	⇈	⇈	⇈	21	5	5.6	NA	21.6-volt lithium-ion	
Tineco A10-D Plus	66	$150	–	–	↓	↑	⇈	⇈	⇈	⇈	17	4	4.99	NA	22.2-volt lithium-ion	
Ryobi One+ 18V P7181K	66	$230	○	○	↓	⇈	⇈	○	⇈	↑	25	2	7.6	NA	Lithium-ion	●
Shark Rocket Pro IZ140	65	$250	○	↑	↓	⇈	↓	⇈	⇈	○	19	3	7.7	NA	21.6-volt lithium-ion	
Dyson V12 Detect Slim Absolute	65	$650	↓	↑	○	⇈	⇈	↑	⇈	⇈	36	4	5.2	NA	25.2-volt lithium-ion	
LG CordZero All-In-One 939KBGS	64	$1,030	–	–	↓	↑	⇈	↑	⇈	○	37	4	6.1	NA	25.9-volt lithium-ion	
Shark Rocket Pet Pro IZ162H	63	$300	○	↑	↓	⇈	↓	⇈	⇈	⇈	21	3	7.4	NA	21.6-volt lithium-ion	
Hoover Onepwr Blade+ BH53310	62	$200	○	○	↓	↑	⇈	↑	⇈	↓	23	4	6.8	NA	20-volt lithium-ion	
Shark Detect Pro IW3511	62	$450	○	↑	↓	↑	↑	⇈	⇈	⇈	22	0	6.0	NA	21.6-volt lithium-ion	
Greenworks 24V Green 4705202	62	$260	–	–	○	○	⇈	⇈	⇈	○	22	1	6.5	NA	21.6-volt lithium-ion	
Electrolux Ultimate800 EHVS85P3AG	62	$600	–	–	○	○	⇈	⇈	↑	⇈	17	3	6.5	NA	25.2-volt lithium-ion	
LG A9 Kompressor	61	$600	–	–	↓	↑	⇈	↑	⇈	⇈	32	4	6.0	NA	Lithium-ion	
Tineco Pure One S15 Pro	61	$600	–	–	↓	○	⇈	⇈	⇈	⇈	19	4	6.9	NA	Lithium-ion	

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WORSE — BETTER

✓ CR RECOMMENDED

Brand + Model	Overall Score	Price	Test Results					Features				
			Carpet	Bare floors	Edges	Pet hair	Noise	Run time (min.)	Charge time (hr.)	Clean emissions	Weight (lb.)	Battery type
HANDHELD VACS												
✓ **Shark** Ion W1 WV201	80	$130	↑	⇈	⇈	⇈	↑	10	3	●	1.4	10.8-volt lithium-ion
$ **Black+Decker** Max+ DustBuster AdvancedClean+ HHVK515J00	79	$90	↑	⇈	⇈	○	↑	23	5	●	2.7	20-volt lithium-ion
$ **Black+Decker** DustBuster CHV1410L	78	$60	↑	⇈	↑	↑	○	9	4	●	2.6	16-volt lithium-ion
✓ **Black+Decker** Flex BDH2020FL	77	$140	↑	↑	⇈	⇈	○	15	4	●	3.1	20-volt lithium-ion
✓ **Hoover** Onepwr BH57005	77	$100	↑	⇈	↑	↑	○	16	3	●	3.3	20-volt lithium-ion
$ **Black+Decker** DustBuster Ion HHVI315JO42	76	$45	↑	⇈	○	⇈	↑	11	5	●	2.1	10.8-volt lithium-ion
✓ **Ryobi** One+ 18V PBLHV701K	75	$160	○	⇈	↑	↑	↑	37	1	●	4.6	18-volt lithium-ion
✓ **Eufy** Clean HomeVac H20	73	$100	↑	○	⇈	↑	⇈	23	1	●	1.3	12-volt lithium-ion
✓ **Black+Decker** BDH2000L	72	$120	↑	⇈	↑	↑	○	11	4	●	2.7	20-volt lithium-ion
✓ **iRobot** H1 H121020	72	$250	○	⇈	↑	⇈	↑	17	4	●	3.1	21.6-volt lithium-ion
$ **Black+Decker** Max AdvancedClean 12V HHVK320J61	72	$60	○	⇈	○	↑	○	14	2	●	2.4	10.8-volt lithium-ion (nominal voltage) claims 12v "unloaded voltage"
$ **Bissell** Pet Hair Eraser 33A1	71	$35	⇈	⇈	⇊	○	↑	NA	NA	●	3.4	Corded model
$ **Shark** UltraCyclone Pro CH901	70	$60	○	↑	○	↑	⇈	10	6	●	2.8	7.2-volt lithium-ion
✓ **Shark** Wandvac WV410	70	$150	○	↑	⇈	⇈	⇈	12	4		1.5	14.4-volt lithium-ion
$ **Shark** Pet Perfect SV75Z	70	$45	↑	↑	○	↑	↑	14	6	●	2.7	15.6-volt Ni-MH
✓ **Shark** UltraCyclone Pet Pro+ CH951	70	$80	○	↑	○	⇈	↑	12	6	●	2.8	10.8-volt lithium-ion
Shark Pet Perfect II SV780	69	$70	⇈	↑	○	○	○	12	16	●	4.0	18-volt Ni-MH
Bissell Pet Hair Eraser 2390A	69	$60	○	↑	↑	↑	↑	16	8	●	2.6	14.4-volt lithium-ion
Eufy HomeVac H30 Infinity	69	$200	○	⇈	↑	⇈	○	10	4	●	1.7	14.4-volt lithium-ion
Ryobi One+ 18V PCL705K	65	$80	○	↑	↓	⇈	○	14	1	●	3.0	18-volt lithium-ion
Eufy HomeVac H11	64	$60	○	○	↑	○	↑	12	3	●	1.2	Lithium-ion
Bissell AeroSlim 29869	63	$40	↑	○	↑	○	↑	12	4	●	1.4	Lithium-ion
Dirt Devil Quick Flip Plus BD30025B	58	$50	○	↑	↓	↓	○	10	6	●	2.3	16-volt lithium-ion
Dirt Devil FlipOut BD10315B	56	$50	○	○	↓	↓	↑	13	6	●	2.5	16-volt lithium-ion
Bissell Pet Hair Eraser 1782	56	$50	↓	○	○	○	⇈	14	5	●	2.8	14.4-volt Ni-MH
Tineco Pure One Mini S4 VS040100US	50	$150	⇊	○	↑	↑	⇈	21	4	●	1.3	10.8-volt lithium-ion
Tineco PWRHero Mini A1 VS010100US	46	$80	⇊	○	↑	↑	⇈	16	3	●	1.4	10.8-volt lithium-ion

Keeping Rugs, Carpets & Floors Clean

Stick, handheld & robotic vacuums

	Brand + Model	Overall Score	Price	Survey Results		Test Results									Features			
				Predicted reliability	Owner satisfaction	Carpet	Bare floors	Navigation	Pet hair	Edges	Ease of use	Noise	Data privacy	Data security	Pattern	Clearance (in.)	WiFi/Cellular connectivity	Run time (min.)
	ROBOTIC VACUUMS																	
✓	**iRobot** Roomba S9+	83	$1,000	↑	◯	↑	⇈	⇈	⇈	⇈	↑	⇈	◯	⇈	Grid	3.5	●	110
✓	**iRobot** Roomba i4+ Evo	76	$520	↑	◯	↑	⇈	↑	↑	↑	↑	↑	◯	↑	Grid	3.8	●	90
✓	**iRobot** Roomba Combo i5	76	$550	↑	◯	↑	⇈	⇈	↑	↑	◯	⇈	◯	↑	Grid	3.5	●	90
✓	**iRobot** Roomba Combo j9+	76	$1,400	↑	◯	↑	⇈	⇈	↑	↑	⇈	↑	◯	↑	Grid	3.8	●	50
✓	**Roborock** S8 Pro Ultra	75	$1,600	—	—	⇈	⇈	⇈	⇈	↑	↑	◯	↓	↑	Grid	4.0	●	100
✓	**iRobot** Roomba Combo j5+	74	$800	↑	◯	◯	⇈	↑	↑	↑	↑	↑	◯	↑	Grid	3.5	●	80
$	**iRobot** Roomba 675 (Target)	73	$280	↑	◯	↑	⇈	⇈	⇈	↑	↓	↑	◯	⇈	Random	3.5	●	90
✓	**iRobot** Roomba i3+ EVO	72	$650	↑	◯	◯	⇈	⇈	⇈	↑	↑	⇈	◯	⇈	Grid	3.6	●	60
✓	**Shark** AI Ultra RV2610WA	72	$600	⇈	◯	◯	⇈	⇈	⇈	◯	⇈	↑	◯	↑	Grid	4.1	●	70
✓	**Eufy** RoboVac X8	71	$500	↑	↑	◯	⇈	⇈	⇈	⇈	◯	◯	↓	◯	Grid	3.9	●	80
✓	**iRobot** Roomba j7+	71	$800	↑	◯	◯	⇈	⇈	⇈	↑	↑	⇈	◯	↑	Grid	3.4	●	60
✓	**iRobot** Roomba i7+	71	$750	↑	◯	↑	↑	⇈	◯	↑	↑	⇈	◯	⇈	Grid	3.6	●	60
✓	**iRobot** Roomba j9+	71	$900	↑	◯	◯	↑	⇈	↑	◯	⇈	⇈	◯	↑	Grid	3.8	●	60
✓	**Samsung** Jet Bot AI+ VR50T95735W	70	$1,300	◯	⇊	↑	⇈	⇈	⇈	⇈	⇈	↑	◯	↑	Grid	5.5	●	80
✓	**iRobot** Roomba e5	70	$400	↑	◯	↑	⇈	↑	◯	↑	◯	⇈	◯	⇈	Random	3.6	●	70
✓	**Eufy** Clean X9 Pro	70	$900	↑	↑	◯	⇈	↑	↑	↑	◯	↑	↓	◯	Grid	4.5	●	110
$	**Eufy** 11S	70	$230	↑	↑	◯	⇈	⇈	↑	↑	◯	⇈	NA	NA	Random	2.9		110
✓	**Eufy** Clean G40+	70	$480	↑	↑	◯	⇈	⇈	↑	⇈	↑	◯	↓	◯	Grid	3.0	●	60
	Neato D9	69	$500	↓	◯	⇈	⇈	↑	⇈	◯	↑	◯	◯	◯	Grid	4.0	●	50
	Roborock S7+	69	$950	—	—	↑	⇈	↑	⇈	↑	◯	◯	↓	◯	Grid	3.8	●	110
	Samsung Jet Bot+ with Clean Station VR30T85513W	69	$800	◯	⇊	↑	⇈	↑	↑	⇈	↑	⇈	◯	↑	Grid	4.0	●	90
	Greenworks GRV-3011 470480	68	$350	—	—	◯	⇈	⇈	⇈	↑	⇈	↑	◯	◯	Grid	3.8	●	90
	Shark IQ RV1000 (Walmart)	68	$300	⇈	◯	◯	↑	⇈	↑	↓	↑	↑	◯	↑	Grid	3.5	●	60
	OKP L1	67	$400	—	—	↑	⇈	⇈	⇈	↑	◯	↑	↓	◯	Grid	3.8	●	80
	Shark IQ RV1001AE	67	$650	⇈	◯	◯	↑	⇈	◯	↓	⇈	↑	◯	↑	Grid	3.5	●	60
	Shark Ion 750 Connected	67	$350	⇈	◯	◯	⇈	⇈	↓	↑	◯	⇈	◯	↑	Random	3.6	●	70

HOW WE TEST: Overall Score is based on performance ratings, along with scores for **predicted reliability** (which estimates the likelihood that newly purchased models will develop problems or break within the first five years of ownership, according to our member surveys) and **owner satisfaction** (the proportion of CR members extremely likely to recommend their vacuum). A gray dash (—) indicates insufficient data for brand-level rating. We evaluate stick and handheld vacs similarly to how we test canister and upright vacs (see page 79), but calibrate for these less-powerful machines. We test robot vacs with obstacles such as carpet fringe, cords, and debris. To assess **navigation**, we map their movements with a tracking device. We also conduct security and privacy tests.

⇊ ↓ ◯ ↑ ⇈

WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

CARPET CLEANERS

● **HOW TO SHOP:** You can rent a machine or hire a pro to deep-clean your carpets, but it's more cost-effective to buy your own cleaner. It will pay for itself after about six uses.

When choosing a model, first consider your home's layout. An apartment or a one-story house probably won't require one with a particularly long hose. But if you have stairs, a long hose will help you reach the top step while leaving the machine at the bottom. That's important because a carpet cleaner weighs 10 to 20 pounds—before you've even filled it with cleaning agent and water.

Some carpet cleaners have one tank with two chambers—one for fresh cleaning solution, the other for dirty water—while other models have two separate tanks. We've found that models with two tanks are easier to use. Even better, some models have dispensers that add the cleaning agent into clean water, so you don't have to measure out the solution yourself. Some machines also come with attachments for upholstery, pet beds, and more.

For the best results, CR's pros advise vacuuming before you start using your carpet cleaner. This eliminates loose dirt and dust first.

● **WHAT TO AVOID:** You don't need to match the brand of your cleaning agent to that of your machine—especially if another brand offers a product that's less expensive. Read the label on the cleaning agent: If your machine's model is listed, it's fine to use. Also, note that not all carpets can withstand machine cleaning. Check the manufacturer's website for care instructions: Not following those guidelines could damage your carpet and void the warranty.
—*Molly Bradley*

$ Hoover PowerDash Pet Advanced FH55000

EXPERT TIP

> "Carpet cleaners are heavy and can be hard to move around. If possible, try out models you're considering in a store, to be sure you can handle them comfortably."
>
> **LARRY CIUFO,**
> CR Senior Test Leader, Carpet Cleaners

Brand + Model	Overall Score	Price	Test Results				Features							
			Cleaning	Dryness	Convenience	Noise	Calculated coverage area (sq. ft.)	Hose length (in.)	Weight, full (lb.)	Weight, empty (lb.)	Weight, solution tank (lb.)	Hose	Separate tanks	Carrying handle
FULL-SIZED CARPET CLEANERS														
✓ **Bissell** ProHeat 2x Revolution Pet Pro Plus 3588F	78	$310	⌃	⇈	⌃	❙	39	81	27	18	9	●	●	●
✓ **Bissell** ProHeat 2x Revolution Pet 35799	77	$230	⌃	⇈	⌃	❙	39	81	26	17	9	●	●	●
✓ **Shark** CarpetXpert EX201	74	$300	⌃	⇈	⌃	❙	24	60	23	18	5	●	●	●

PHOTO: HOOVER

Brand + Model	Overall Score	Price	Test Results				Features							
			Cleaning	Dryness	Convenience	Noise	Calculated coverage area (sq. ft.)	Hose length (in.)	Weight, full (lb.)	Weight, empty (lb.)	Weight, solution tank (lb.)	Hose	Separate tanks	Carrying handle
✓ **Bissell** Revolution HydroSteam Pet 3432	73	$400	↑	↑	↑	!	39	81	31	22	9	●	●	●
$ **Hoover** PowerDash Pet Advanced FH55000	72	$150	↑	↑	↑	↓	7	96	19	14	5	●	●	
✓ **Bissell** ProHeat 2X Lift-Off Pet 15651	71	$300	↑	⇈	↑	↓	15	61	30	24	6	●	●	●
$ **Hoover** PowerDash Pet FH50700	69	$100	↑	↑	↑	↓	8	0	17	12	5		●	
✓ **Bissell** TurboClean PowerBrush 2987	69	$130	!	⇈	↑	⇊	8	0	18	12	6		●	
✓ **Hoover** SmartWash+ Automatic FH52000	68	$300	!	⇈	↑	↓	6	108	26	18	8	●	●	●
✓ **Hoover** Powerscrub XL Pet FH68002	66	$250	!	⇈	↑	↓	30	102	29	19	10	●	●	
Bissell ProHeat 2X Revolution Pet Pro 1986	62	$270	!	⇈	↑	↓	32	100	27	19	10	●	●	
Bissell ProHeat 2X Revolution Pet 1548	61	$190	↑	!	↑	↓	42	100	26	18	10	●	●	
Bissell Big Green Machine Professional 86T3	59	$430	⇈	↓	↓	⇊	17	120	58	43	19	●	●	●
Bissell PowerForce PowerBrush Pet 2910	59	$90	!	⇈	↑	⇊	8	0	17	12	5		●	
Bissell Pro Heat 2X Revolution Advanced 1551	57	$220	!	↑	↑	⇊	10	84	25	17	8	●	●	●
Hoover Dual Power Max Pet FH54010	55	$160	!	⇈	↑	↓	32	105	26	17	9	●	●	
Bissell Pro Heat Advanced 1846	53	$130	!	↑	!	⇊	7	96	23	19	5	●		
Hoover TurboScrub XL FH68020	50	$230	↓	↑	↑	⇊	31	144	28	19	8	●	●	
Bissell JetScrub 25299	45	$250	⇊	⇈	↑	↓	10	0	18	14	4			●
Hoover Carpet Basics Power Scrub Deluxe FH50150	45	$200	↓	↑	↑	↓	28	100	26	17	10	●	●	●
Bissell ProHeat Essential 1887	42	$170	!	↓	!	!	32	84	28	20	10	●		●
Hoover Power Scrub Elite Pet FH50251	41	$230	⇊	⇈	↑	↓	35	100	30	18	13	●	●	●
Hoover Turbo Scrub FH50138	41	$180	↓	↑	↑	⇊	16	96	25	17	8	●	●	
Bissell DeepClean Deluxe Pet 36Z9	39	$300	!	⇊	!	↓	32	108	36	26	14	●		●
Hoover SmartWash Pet Complete FH53000PC	31	$300	↓	↓	!	↓	29	105	28	19	9	●	●	●

HOW WE TEST: Overall Score is based on the results of all our tests. To evaluate carpet cleaners, we soil three large swatches of off-white nylon carpet with red clay. Then, we run the cleaner for four wet and four dry cycles. Next, using a colorimeter, we take 60 readings of each carpet swatch per test. After 180 readings per carpet cleaner, we arrive at a **cleaning** score based on how much color is left on the carpet. This, in turn, reflects how well the carpet cleaner removed the soil. We also assess **convenience** and **noise.**

⇊ ↓ ! ↑ ⇈
WORSE BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

Mopping Your Floors

It's enough to mop most floors once a month. (High-traffic, high-mess areas might need more attention.) If you have laminate or tile, a steam mop will streamline the task, but don't use one on wood, because moisture can seep into crevices and cause damage. Robotic mops offer a gentler touch but can't provide a deep clean.

STEAM MOPS

● **HOW TO SHOP:** Steam mops let you skip the bucket and mess of a traditional mop. Just fill the mop's reservoir with water, press a button, and you'll soon have clean floors with a quick-dry, streak-free finish (though despite what you may have heard, a mop won't necessarily get hot enough to actually sterilize the floor, especially with just a quick pass). Match your mop to your home: Opt for a model with a longer cord if you don't have conveniently placed outlets. Look for one with a swivel head if you have tight spaces, or a detachable head if you'd like to steam-clean drapes and upholstery.

● **WHAT TO AVOID:** Skip models that require pumping the handle to produce steam. You can find similarly priced mops that do that work for you. (None of the models below require pumping.) —*M.B.*

✓ **Tineco Floor One S5**

Brand + Model	Overall Score	Price	Test Results			Features					
			Cleaning	Steam rate	Convenience	Cord length (ft.)	Weight (lb.)	Reservoir capacity (fl. oz.)	Time to heat (sec.)	Ready light or indicator	Empty light or indicator
STEAM MOPS											
✓ **Tineco** Floor One S5	90	$450	⇈	⇈	↑	27	16	24	23	●	●
✓ **Bissell** Power Steamer 2685A	84	$180	⇈	↑	↑	25	8	12	30	●	
$ **Bissell** PowerFresh 2-in-1 2814	83	$65	⇈	!	↓	16	6	11	37	●	
$ **PurSteam** 10-in-1 Therma Pro 211	82	$70	⇈	↑	!	16	6	13	19		
✓ **Bissell** PowerFresh Slim 2075A	79	$150	⇈	↑	!	25	7	12	30	●	
✓ **Bissell** PowerFresh Pet Lift-Off 15441	77	$150	↑	↑	↑	25	8	14	30	●	
✓ **Bissell** PowerFresh Deluxe 1806	77	$110	↑	!	↑	25	7	15	30	●	
✓ **Shark** Steam & Scrub S7001	76	$160	↑	↑	!	22	8	11	20		

PHOTOS: MANUFACTURERS

ROBOTIC MOPS

● **HOW TO SHOP:** These machines pass over floors (but not carpet) with a damp pad. Some have spinners, and these perform best, according to our testers. Others also work as a vacuum, switching between the two functions automatically when they sense a change from hard floor to carpet, or according to how you program the connected app. Remember, combo models don't always vacuum and mop equally well. You'll still need to get a dedicated machine for heavy-duty vacuuming. Combo options are also pricier: If you have mostly uncarpeted floors, you might not need one at all. And some models empty the dirty liquid and refill the tank with clean liquid; others require you to do it yourself. To avoid that added chore, check the features.

● **WHAT TO AVOID:** Models with small tank capacities require frequent refilling. Tanks hold 200 to 4,000 milliliters. Most people do well with something in between. —*J.C.*

EXPERT TIP

> "Robotic mops can be expensive. While they start at around $180, many cost hundreds more—all the way up to $1,400. For a top performer with advanced features, expect to pay around $500 or more."
>
> **CÉSAR CARROLL,**
> CR Market Analyst, Robotic Mops and Vacuums

✓ **Bissell SpinWave Wet and Dry Robotic Vacuum**

Brand + Model	Overall Score	Price	Test Results: Navigation	Test Results: Cleaning	Features: Pattern	Features: Clearance (in.)	Features: WiFi/Cellular connectivity	Features: Run time (min.)	Features: Type
ROBOTIC MOPS									
✓ **Narwal** T10 4 in 1 Robotic Mop	82	$1,000	↑	⇈	Grid	4.25	●	70	Hybrid
✓ **Samsung** Jetbot Mop (VR20T6001MW)	82	$300	↑	⇈	Multiple	5.25		100	Mop
✓ **Bissell** SpinWave Wet and Dry Robotic Vacuum (3115)	77	$312	↑	⇈	Grid	3.38	●	80	Hybrid
Roborock S7 MaxV Ultra	73	$1,400	↑	↑	Grid	3.88	●	60	Hybrid
Eufy Clean L35 Hybrid	71	$400	↑	↑	Grid	3.75	●	80	Hybrid
Coredy R750 Pro Robot Vacuum and Mop	70	$250	↑	↑	Grid	3.00	●	90	Hybrid
ILife V8s	62	$200	↑	↑	Grid	3.13		50	Hybrid
Ecovacs Deebot N8 Pro+	58	$450	↑	!	Grid	3.50	●	80	Hybrid
iRobot Braava Jet M6 (6110)	54	$340	↑	!	Grid	3.25	●	100	Mop

HOW WE TEST: Overall Score is based on the results of all our tests. To evaluate **steam mops**, we smear ketchup, mustard, and jam on the surface of a ceramic tile. Once the food dries, we photograph the soiled tile, then place it on a floor among similar tiles that are clean. We then take several passes at the floor with a steam mop. After cleaning the tile and letting it air-dry, we take another photo of the tile to identify how much soil was removed and how much remains. To test **robotic mops**, we assess both cleaning performance and navigation. We apply V8 juice and espresso to ceramic tile and vinyl-plank flooring, then send each model on three runs to clean the entire floor. If the mop can't be programmed to avoid carpet, we set up a physical barrier. For the connected models, we use the app. For the nonconnected, we use the remote control.

⇊ ↓ ! ↑ ⇈
WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

Cleansers for Laundry & Dishes

A trusty washing machine and dishwasher will make quick work of cleaning, but they'll do even better with great detergents. Choose the right ones and you'll be rewarded with spot-free clothes, shiny dinnerware, and sparkling glasses.

LAUNDRY & DISHWASHER DETERGENTS

● **HOW TO SHOP:** Whether you're cleaning plates or pants, the right detergent lets you confidently check that chore off your list. In our laundry detergent tests, liquid formulas outperform single-dose pacs. With dishwasher detergents, the opposite is true—the pacs and tablets clean better than the liquids. But there are other issues to consider too. If you have people or pets in your household who might accidentally ingest detergent pacs, opt for the liquid variety. And for shorter laundry or dishwasher cycles, pacs might not have enough time to fully dissolve. Pacs can also be overkill for small loads. If your loads vary but you prefer pacs, have a liquid on hand to dose as needed.

● **WHAT TO AVOID:** Don't buy small containers unless you have limited storage. Large-capacity options can really save you money. —*M.B.*

✓ **Member's Mark (Sam's Club) Ultimate Clean Dishwasher Pacs**

Brand + Model	Overall Score	Price	Test Results									Feature
		Per load	Body oil	Dirt	Salad dressing	Coffee	Chocolate	Grass	Blood	Pretreat	Hard water	For sensitive skin
LIQUID LAUNDRY DETERGENTS												
✓ **Tide** Plus Ultra Stain Release	84	28¢	⇈	⇈	⇈	❘	⇈	↑	↑	⇈	↑	
✓ **Persil** ProClean Stain Fighter	84	21¢	⇈	⇈	⇈	❘	⇈	↑	↑	⇈	❘	
✓ **Tide** Plus Ultra Oxi	83	27¢	⇈	↑	⇈	❘	⇈	↑	❘	⇈	↑	
✓ **Tide** Plus Hygienic Clean Heavy Duty 10X	80	44¢	⇈	↑	⇈	❘	⇈	↑	↑	⇈	↑	
✓ **Persil** ProClean + Oxi Power	79	30¢	⇈	↑	⇈	❘	⇈	↑	⇈	⇈	↑	
✓ **Persil** ProClean Odor Fighter	78	29¢	↑	⇈	⇈	↓	↑	↑	↑	↑	↑	
✓ **Persil** ProClean Original	78	19¢	⇈	↑	⇈	❘	⇈	❘	❘	↑	❘	
✓ **Tide** Plus Ultra Oxi with Odor Eliminators	76	24¢	⇈	⇈	⇈	↓	↑	↑	↑	↑	↑	
✓ **Kirkland Signature (Costco)** Ultra Clean Liquid	76	11¢	⇈	↑	⇈	❘	↑	❘	↓	↑	↑	
✓ **Persil** ProClean Sensitive Skin	75	37¢	⇈	↑	⇈	❘	⇈	❘	❘	↑	❘	●

PHOTO: CONSUMER REPORTS

Brand + Model	Overall Score	Price	Test Results									Feature
		Per load	Body oil	Dirt	Salad dressing	Coffee	Chocolate	Grass	Blood	Pretreat	Hard water	For sensitive skin
PODS/PACKS LAUNDRY DETERGENTS												
Tide Plus Hygienic Clean Heavy Duty 10X Power Pods	78	33¢	⏫	⏫	⏫	❙	🔼	🔼	🔼	NA	🔼	
Tide Plus Ultra Oxi with Odor Eliminators Power Pods	74	56¢	🔼	⏫	⏫	❙	🔼	🔼	🔼	NA	🔼	
Tide Plus Hygienic Clean 10X Heavy Duty Power Pods Free/Nature	71	57¢	🔼	🔼	⏫	❙	⏫	🔼	🔼	NA	🔼	●
Tide Pods Ultra Oxi 4in1	70	42¢	⏫	🔼	⏫	❙	⏫	❙	🔽	NA	🔼	
Tide Power Pods Febreeze Odor Eliminators + Lasting Freshness	70	54¢	⏫	🔼	⏫	❙	⏫	❙	🔽	NA	🔼	
Gain Flings	67	56¢	⏫	🔼	🔼	❙	🔼	🔼	❙	NA	❙	
Tide Pods Plus Downy 4 in 1	65	35¢	🔼	🔼	⏫	❙	🔼	❙	🔽	NA	❙	
Kirkland Signature (Costco) Ultra Clean Premium Laundry Detergent Pacs	63	12¢	⏫	❙	⏫	❙	❙	🔽	🔽	NA	❙	

	Brand + Model	Overall Score	Price	Test Results			Features		
			Per load	Size of package	Cleans dishes	Resists film discoloration	Resists water spots	Contains bleach	Contains enzymes
	SINGLE-DOSE DISHWASHER DETERGENTS								
✓	**Member's Mark (Sam's Club)** Ultimate Clean Dishwasher Pacs	92	10¢	105 ct.	⏫	⏫	●	●	●
✓	**Cascade** Original ActionPacs with Dawn	89	22¢	25 ct.	⏫	⏫			●
✓	**Cascade** Free & Clear ActionPacs	87	31¢	16 ct.	⏫	⏫	●		●
✓	**Cascade** Complete ActionPacs with Dawn	87	27¢	27 ct.	⏫	🔼	●		●
✓	**Kirkland Signature (Costco)** Platinum Performance UltraShine	86	9¢	115 ct.	⏫	⏫			●
✓	**Finish** Powerball Quantum	85	23¢	50 ct.	⏫	🔼			●
✓	**Cascade** Platinum ActionPacs with Dawn	84	33¢	21 ct	⏫	🔼	●		●
	Finish Max in 1 Powerball	81	28¢	28 ct.	⏫	🔼			●
	Seventh Generation Power+ Packs	79	25¢	43 ct.	⏫	❙	●		●
	GEL								
✓	**Great Value** Dishwasher Gel (Walmart)	74	5¢	75 oz.	❙	⏫		●	
	Cascade Gel with Dawn	68	10¢	120 oz.	🔼	🔼			
	Finish Gel	61	9¢	75 oz.	🔽	⏫		●	

HOW WE TEST: Overall Score is based on the results of all our tests. To evaluate **dishwasher detergents,** we smear eight dinner plates with a starchy goop and run them through a normal wash cycle. Next, we use imaging analysis to find out exactly how clean the dishes got and whether any water spots emerged. Then we run a set of glassware and aluminum plates through 10 consecutive wash cycles with exceptionally hard water. With a spectrophotometer, we check whether any film forms on the glass or if the aluminum discolors. To test **laundry detergents,** we wash a load with extremely hard-to-remove stains on swatches, in cool soft and hard water. We wash the swatches in two identical machines, then air-dry. Testers then use a colorimeter to see how much stain was removed from each swatch. We also use liquid detergents as a pretreatment directly on stains.

⏬ 🔽 ❙ 🔼 ⏫
WORSE — BETTER

✓ CR RECOMMENDED

Taking Care of Your Lawn

In the spring, plan on cutting your grass at least once a week to keep it at about 3 inches; in summer you can mow less often. Use your string trimmer weekly to tackle spots you can't reach with the mower and for edging—and as needed to clear creeping vines and weeds.

LAWN MOWERS

● **HOW TO SHOP:** For half an acre or less, choose a traditional walk-behind mower, either push or self-propelled. Pick a riding mower, tractor, or zero-turn-radius mower for larger properties.

Battery mowers and tractors are quieter and easier to maintain than gas models. The best ones perform as well as comparable gas models, and can run for up to 2 hours per charge. But gas units cost less.

If you bag or mulch your clippings, check our ratings for mowers that earn high marks in those tests. Also, consider the width of the cutting deck. Wider mowers reduce cutting time, but they can be tough to maneuver, especially in tight spaces.

$ **Ego LM2114SP**

● **WHAT TO AVOID:** Buying the snow blower attachment for your riding mower. They often cost more than a good snow blower.
—Paul Hope and Tobie Stanger

> "Don't go for the cheapest option. If you've got a hilly yard that's at least half an acre, you'll appreciate a self-propelled mower more than a lower-cost push model."
>
> **EXPERT TIP**
>
> **FRANK SPINELLI,**
> CR Test Data Manager,
> Lawn Mowers

Brand + Model		Overall Score	Price	Survey Results: Predicted reliability	Survey Results: Owner satisfaction	Test Results: Side discharging	Mulching	Bagging	Evenness	Handling	Run time	Charge time	Noise at ear	Noise at 25 ft.	Features: Deck size (in.)	Mower warranty (yr.)	Battery warranty (yr.)	Washout port	Upright storage
BATTERY SELF-PROPELLED MOWERS																			
✓ **Greenworks** MO80L421	🍃	85	$750	↑	⇈	↑	⇈	I	⇈	⇈	⇈	↑	⇈	⇈	21	4	4		●
✓ **Ryobi** RY401210US	🍃	85	$800	I	⇈	⇈	⇈	↑	⇈	⇈	⇈	↑	⇈	⇈	21	5	3		●
✓ **Ryobi** RY401150US	🍃	84	$700	I	⇈	⇈	⇈	↑	⇈	⇈	⇈	↑	I	⇈	21	5	3		●
✓ **Ego** LM2156SP	🍃	83	$850	I	⇈	⇈	⇈	I	⇈	⇈	⇈	↑	⇈	⇈	21	5	5		●
$ **Ryobi** RY401140US		82	$600	I	⇈	⇈	⇈	↑	⇈	⇈	⇈	↑	I	⇈	21	5	3		●

PHOTO: EGO

	Brand + Model		Overall Score	Price	Survey Results		Test Results									Features				
					Predicted reliability	Owner satisfaction	Side discharging	Mulching	Bagging	Evenness	Handling	Run time	Charge time	Noise at ear	Noise at 25 ft.	Deck size (in.)	Mower warranty (yr.)	Battery warranty (yr.)	Washout port	Upright storage
	BATTERY SELF-PROPELLED MOWERS *Continued*																			
✓	**Makita** XML08PT		79	$900	–	–	⇈	⇈	❙	⇈	↑	⇈	↑	⇈	⇈	21	3	3		
$	**Ego** LM2114SP		78	$550	❙	⇈	↑	⇈	↑	⇈	⇈	↑	❙	⇈	⇈	21	5	3		●
✓	**Milwaukee** 2823-22HD		78	$1,100	–	–	⇈	⇈	❙	⇈	⇈	⇈	↓	⇈	⇈	21	3	3		●
$	**Ryobi** RY401260VNM	🍃	77	$580	❙	⇈	⇈	⇈	❙	↑	⇈	↑	❙	⇈	⇈	20	5	3		●
$	**Kobalt (Lowe's)** KLMS 2524A-03		75	$500	❙	⇈	↑	⇈	❙	⇈	⇈	↑	⇊	⇈	⇈	20	5	3		●
$	**Green Machine** GMSM6200		75	$550	–	–	↑	↑	❙	⇈	↑	⇈	↑	⇈	⇈	23	5	3		●
$	**Kobalt (Lowe's)** KSPM 1040A-03		73	$430	❙	⇈	↑	⇈	❙	⇈	↑	↑	⇊	⇈	⇈	20	5	3		●
✓	**Ego** LM2135SP		73	$700	❙	⇈	❙	↑	↑	↑	⇈	↑	↑	⇈	⇈	21	5	3		●
	DeWalt DCMWSP244U2		72	$700	–	–	⇈	⇈	❙	⇈	↑	⇈	⇊	⇈	⇈	21.5	3	3		●
	Toro 21568		72	$850	–	–	⇈	⇈	↑	⇈	⇈	❙	⇊	⇈	⇈	21	5	3		●
	Cat DG671		71	$630	–	–	↑	⇈	❙	↑	↑	❙	↑	⇈	⇈	21	5	3		●
	Ryobi RY401180VNM		71	$430	❙	⇈	↑	⇈	↑	⇈	↑	❙	❙	↑	⇈	20	5	3		●
	Toro Recycler 21466		71	$630	–	–	⇈	⇈	❙	⇈	⇈	❙	⇊	⇈	⇈	22	2	3	●	●
	Skil SM4910-10		70	$400	–	–	❙	⇈	❙	↑	⇈	❙	❙	⇈	⇈	20	5	2		●
	Stihl RMA 460V		70	$600	–	–	↑	⇈	❙	⇈	↑	❙	⇊	↑	⇈	19	3	3		●
	Sun Joe 24V-X2-21LMSP		70	$600	–	–	↑	⇈	❙	⇈	↑	❙	↓	⇈	⇈	21	2	2		●
	Worx WG761		69	$800	–	–	⇈	↑	❙	↑	↑	↑	⇊	⇈	⇈	21	5	3		●
	Atlas 56992		69	$490	–	–	↑	⇈	❙	↑	↑	❙	❙	⇈	⇈	21	0.25	0.25		●
	Kobalt (Lowe's) KMP 6080-06		69	$700	❙	⇈	↓	❙	❙	↑	⇈	⇈	❙	⇈	⇈	21	5	3		●
	Greenworks MO48L520		69	$500	↑	⇈	↑	↑	❙	↑	⇈	❙	⇊	⇈	⇈	21	3	3		●
	Power Smart PS76821SRB		64	$580	–	–	↑	❙	❙	↑	↑	❙	❙	⇈	⇈	21	3	3		●
	BATTERY PUSH MOWERS																			
✓	**Ryobi** RY401220	🍃	82	$850	↑	⇈	⇈	⇈	↑	⇈	↑	⇈	↑	↑	⇈	21	5	3		●
✓	**Ryobi** RY401200		79	$600	↑	⇈	⇈	⇈	↑	⇈	⇈	↑	❙	↑	⇈	21	5	3		●
$	**Ego** LM2114		79	$450	↑	⇈	↑	↑	↑	⇈	⇈	↑	❙	⇈	⇈	21	5	3		●
$	**Snapper** SXD19PWM82K		78	$400	–	–	❙	↑	❙	⇈	⇈	⇈	⇈	⇈	⇈	19	5	2		●
$	**Ryobi** RY401170VNM		76	$330	↑	⇈	↑	⇈	↑	⇈	⇈	↑	❙	↑	⇈	20	5	3		●
$	**Kobalt (Lowe's)** KPM 1040A-03		74	$350	↑	↑	↑	⇈	❙	⇈	⇈	↑	⇊	⇈	⇈	20	5	3		●
$	**Skil** PM4910-10		72	$330	–	–	NA	⇈	❙	⇈	⇈	↑	❙	⇈	⇈	20	5	2		●
✓	**Stihl** RMA 510		71	$550	⇈	⇈	↓	❙	❙	↑	⇈	❙	↑	⇈	⇈	21	3	3		●
✓	**Atlas** 80v Brushless 21"		71	$420	–	–	↑	⇈	❙	↑	⇈	❙	❙	⇈	⇈	21	0.25	0.25		●
✓	**Greenworks** 2532802		71	$430	❙	⇈	↑	⇈	❙	⇈	⇈	❙	⇊	⇈	⇈	20	3	3		●

⇊ ↓ ❙ ↑ ⇈
WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

🍃 CR GREEN CHOICE

	Brand + Model	Overall Score	Price	Survey Results		Test Results									Features				
				Predicted reliability	Owner satisfaction	Side discharging	Mulching	Bagging	Evenness	Handling	Run time	Charge time	Noise at ear	Noise at 25 ft.	Deck size (in.)	Mower warranty (yr.)	Battery warranty (yr.)	Washout port	Upright storage
	BATTERY PUSH MOWERS *Continued*																		
✓	**Makita** XML03CM1	65	$600	–	–	NA	○	○	▲	▲	▲	○	▲▲	▲▲	18	3	3		
✓	**Green Machine** GMPM6200	65	$450	–	–	▲	▲	○	▲▲	○	○	▲	▲▲	▲▲	23	5	3		●
	Wen 40441	61	$350	–	–	▲	▲	○	▲	▲▲	○	▼▼	▲▲	▲▲	21	2	2		
	BATTERY RIDING MOWERS																		
✓	**Ego** ZT4205S	89	$6,000	–	–	▲▲	▲▲	NA	▲▲	▲▲	▲	▲	▲	▲	42				
✓	**Greenworks** CRZ428	87	$5,000	–	–	▲▲	▲▲	NA	▲▲	▲	▲	▲▲	▲▲	▲▲	42				
✓	**Ego** ZT4204L	86	$5,500	–	–	▲▲	▲▲	NA	▲	▲▲	▲	▲	○	○	42				
✓	**Ryobi** RYRM8034	84	$7,000	–	–	▲▲	▲▲	NA	▲▲	▲	▲▲	▲	○	○	54				
✓	**Cub Cadet** LT42e	78	$4,900	–	–	▲▲	▲▲	○	▲	▲	○	○	▲	▲▲	42				
✓	**Cub Cadet Ultima** ZT1 42E 🍃	75	$6,000	–	–	▲	▲▲	NA	▲▲	▲	▲	○	○	○	42				
	Cub Cadet CC30e	69	$3,600	–	–	▲	▲▲	▼	▲	▲	▲	○	▲	▲▲	30				
	GAS WIDE-DECK SELF-PROPELLED MOWERS																		
✓	**Toro** Timemaster 21199	74	$1,600	○	▲	▲	▲	▲▲	▲▲	▲	NA	NA	▼▼	▼	30	3		●	
	GAS SELF-PROPELLED MOWERS																		
✓	**Honda** HRX217HZA	85	$1,100	▲▲	▲▲	▼	▲▲	▲▲	▲▲	▲▲	NA	NA	▼	○	21	5			
✓	**Honda** HRN216VLA	85	$650	▲▲	▲▲	▲	▲▲	▲	▲▲	▲▲	NA	NA	▼	▲	21	3			
✓	**Honda** HRN216VKA	84	$550	▲▲	▲▲	▲	▲▲	▲	▲▲	▲▲	NA	NA	○	▲	21	3			
✓	**Honda** HRX217VKA	83	$800	▲▲	▲▲	▼	▲▲	▲▲	▲▲	▲▲	NA	NA	▼	○	21	5			
✓	**Craftsman** M320	74	$520	○	○	▲▲	▲▲	▲	▲▲	▲▲	NA	NA	▼	○	21	2		●	
✓	**Toro** Super Recycler 21565	73	$800	○	▲	▲▲	▲▲	○	▲▲	▲▲	NA	NA	▼	○	21	5			●
✓	**Toro** Personal Pace Recycler 21465	73	$500	○	▲	▲▲	▲▲	▲	▲▲	▲	NA	NA	▼	○	22	2			●
✓	**Toro** Recycler 21462	71	$480	○	▲	▲▲	▲▲	▲	▲▲	▲▲	NA	NA	▼	▼	22	2			
✓	**Cub Cadet** SC 900	70	$630	○	○	NA	▲	▲▲	▲▲	▲▲	NA	NA	▼	○	23	4		●	
	Yardmax YG2760	68	$350	–	–	▲▲	▲▲	○	▲▲	▲	NA	NA	○	▼	22	2		●	
	Cub Cadet SC300B	67	$480	○	○	▲▲	▲▲	○	▲▲	▲	NA	NA	▲	○	22	3		●	
	Troy-Bilt TB220B XP Space Savr	64	$480	○	○	▲	▲	○	▲▲	▲	NA	NA	○	○	21	3		●	●
	GAS PUSH MOWERS																		
✓	**Honda** HRN216PKA 🍃	79	$530	▲▲	▲▲	▲	▲	▲	▲▲	▲	NA	NA	○	○	21	3			
✓	**Toro** 21311 🍃	72	$370	▲	○	▲▲	▲▲	○	▲▲	▲	NA	NA	○	○	21	2			
✓	**Troy-Bilt** TB120B 🍃	71	$430	▲▲	○	▲	▲▲	○	▲▲	▲	NA	NA	▼	○	21	2			
	Yardmax YG1650	69	$270	–	–	▲▲	▲▲	○	▲	▲▲	NA	NA	▼	▼	21	2			
	Masport 478946	64	$500	–	–	▲▲	▲▲	○	▲	○	NA	NA	▼▼	▼	21	4			
	Yard Force YF22-3N1	63	$315	–	–	○	▲	▲	▲▲	▲	NA	NA	○	○	22	2			

Brand + Model	Overall Score	Price	Survey Results		Test Results							Features					
			Predicted reliability	Owner satisfaction	Side discharging	Mulching	Bagging	Evenness	Handling	Noise at ear	Noise at 25 ft.	Deck size (in.)	Warranty (yr.)	Cuts in reverse	Cruise control	Washout port	Power steering
GAS REAR-ENGINE RIDER																	
✓ **Cub Cadet** CC30 H 🌱	64	$2,250	↑	⇈	↑	↑	↓	⇈	↑	↓	|	30	3	●		●	
GAS LAWN TRACTORS																	
✓ **John Deere** X354	86	$5,000	⇈	⇈	⇈	⇈	⇈	⇈	⇈	⇊	⇊	42	4	●	●	●	
✓ **John Deere** S240-48	86	$3,700	⇈	⇈	⇈	⇈	⇈	⇈	↑	↓	↓	48	3	●	●	●	
✓ **John Deere** X350-42	85	$4,000	⇈	⇈	⇈	⇈	↑	⇈	⇈	⇊	⇊	42	4	●	●	●	
✓ **John Deere** S170	83	$3,300	⇈	⇈	⇈	⇈	↑	⇈	↑	⇊	⇊	48	2	●	●	●	
✓ **John Deere** S120	82	$2,700	⇈	⇈	⇈	⇈	↑	↑	↑	⇊	⇊	42	2	●	●	●	
✓ **John Deere** S140	82	$2,900	⇈	⇈	⇈	⇈	↑	⇈	↑	⇊	⇊	48	2	●		●	
✓ **John Deere** S220 🌱	82	$3,000	⇈	⇈	⇈	⇈	↑	⇈	↑	⇊	⇊	42	3	●	●	●	
$ **John Deere** S100 🌱	81	$2,400	⇈	⇈	⇈	⇈	↑	⇈	↑	⇊	⇊	42	2	●		●	
✓ **Cub Cadet** XT2 SLX50	79	$3,800	|	↑	⇈	⇈	⇈	⇈	⇈	⇊	⇊	50	3	●	●	●	
Cub Cadet XT1 LT46	76	$2,500	|	↑	⇈	⇈	↑	⇈	⇈	⇊	⇊	46	3	●	●	●	
Cub Cadet XT1 LT 50	75	$2,800	|	↑	⇈	⇈	↑	⇈	↑	⇊	⇊	50	3	●	●	●	
Husqvarna TS 354XD	75	$4,900	|	|	⇈	⇈	↑	⇈	↑	⇊	⇊	54	3	●	●	●	
Troy-Bilt Super Bronco XP 46 Fab	73	$2,500	|	↓	⇈	⇈	|	⇈	↑	⇊	⇊	46	3	●	●	●	
Husqvarna TS 148X 🌱	71	$3,100	|	|	⇈	⇈	NA	↑	↑	⇊	⇊	48	3	●	●	●	
GAS ZERO-TURN-RADIUS MOWERS																	
✓ **John Deere** Z530M	86	$5,800	⇈	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	54	4	●		●	
✓ **John Deere** Z515E 🌱	86	$5,100	⇈	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	54	4	●		●	
✓ **John Deere** Z330R-54	85	$4,100	⇈	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	54	3	●		●	
✓ **Bad Boy** MZ Magnum	81	$4,800	⇈	⇈	↑	⇈	NA	⇈	⇈	⇊	⇊	54	2	●			
✓ **Kubota** Z231KW-42 🌱	80	$4,800	—	—	⇈	⇈	NA	↑	↑	⇊	⇊	42	4	●			
✓ **Cub Cadet** Ultima ZT2-50 Fab	80	$4,500	|	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	50	3	●		●	
✓ **Cub Cadet** Ultima ZT1 50	79	$4,900	|	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	50	3	●		Opt.	
Ariens Ikon 52 918005	78	$4,000	|	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	52	3	●			
Cub Cadet Ultima ZT1 54P	78	$4,100	|	⇈	⇈	⇈	NA	⇈	⇈	⇊	⇊	54	3	●		Opt.	
Craftsman Z5800	76	$3,500	|	|	⇈	⇈	NA	⇈	⇈	⇊	⇊	54	3	●		●	
Craftsman Z5200	76	$3,100	|	|	⇈	⇈	NA	⇈	⇈	⇊	⇊	42	3	●		●	
Stihl RZ 142 🌱	76	$3,900	—	—	⇈	⇈	NA	↑	⇈	⇊	⇊	42	3	●		●	
Cub Cadet Ultima ZTS1 42 🌱	76	$4,700	|	⇈	⇈	⇈	NA	↑	⇈	⇊	⇊	42	4	●		Opt.	

HOW WE TEST: Overall Score is based on performance ratings, along with survey data for **predicted reliability** (which estimates the likelihood that newly purchased models will develop problems or break within the first five years of ownership) and **owner satisfaction** (the proportion of CR members who are extremely likely to recommend their lawn mower). A gray dash (—) indicates insufficient data for brand-level rating. We test each mower using three modes: **side discharging**, **mulching**, and **bagging**. We cut both level turf and slopes, and review any convenience features.

⇊ ↓ | ↑ ⇈
WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

🌱 CR GREEN CHOICE

STRING TRIMMERS

HOW TO SHOP: Battery string trimmers now outsell gas models, and they tend to offer the perfect mix of power and easy maintenance. If you already have a battery mower, buy your string trimmer from the same brand, assuming it does well in our ratings, and you can use the batteries interchangeably. This way, you can always charge one battery while you use the other.

For a large property with lots of flower beds and walkways, a gas string trimmer may make sense. Unlike their battery counterparts, gas string trimmers can run indefinitely, as long as you top off the fuel. And that's what you'll need to adequately manage the edging along paths, or big areas that get filled with tall grass and weeds. Gas models with a four-stroke engine pollute far less than those with a two-stroke engine, and they allow you to use regular gasoline; models with two-stroke engines require the extra drudgery of mixing gasoline and oil in a precise ratio.

Smaller tasks may need only electric corded trimmers. Used with an outdoor extension cord—most of which max out at 100 feet—these tools are best for people with an outdoor outlet and a small yard. Corded electrics tend to be the cheapest, too, but remember to budget for a heavy-duty, outdoor-rated extension cord if you don't already have one.

WHAT TO AVOID: Curved-shaft trimmers tend to score lower than straight options in our tests. But try models out in a store to see which style works best for you. —*P.H.*

✓ **Echo SRM-2620**

EXPERT TIP

> "Look for models with only a small gap between the cutting head and the shaft, or find one with a quick-release head. These types prevent tall grass from getting caught and let you easily remove captured weeds."
>
> **DAVID TREZZA,**
> CR Test Leader,
> String Trimmers

	Brand + Model	**Overall Score**	**Price**	**Survey Results**		**Test Results**					**Features**							
				Predicted reliability	Owner satisfaction	Trimming	Edging	Tall grass and weeds	Handling	Ease of use	Weight (lb.)	Engine size	Volts	Battery platform voltage (V)	Four-cycle engine	Dual line	Clutch	Rotating head
	GAS STRAIGHT SHAFT STRING TRIMMERS																	
✓	**Echo** SRM-2620	86	$360	▲	▲▲	▲▲	▲▲	▲▲	▲▲	▲	12.1	25.4cc	NA	NA		●	●	
✓	**Honda** HHT35SLTA	85	$450	▲	▲▲	▲▲	▲▲	▲▲	▲	▲	16.1	36cc	NA	NA	●	●	●	
✓	**Echo** SRM-225i	85	$260	▲	▲▲	▲▲	▲▲	▲▲	▲▲	▲	12.1	21.2cc	NA	NA		●	●	
✓	**Stihl** FS 70 R	84	$300	▲	▲▲	▲▲	▲▲	▲▲	▲	▲	12.7	27cc	NA	NA		●	●	
✓	**Husqvarna** 130L	83	$250	▲	▲▲	▲▲	▲▲	▲▲	▲	▲	12.9	28cc	NA	NA		●	●	
$	**Stihl** FS 56 RC-E	82	$200	▲	▲▲	▲▲	▲▲	▲▲	▲	▲	13.0	27cc	NA	NA		●	●	
	Husqvarna 330LK	80	$300	▲	▲▲	▲▲	▲▲	▲▲	▲	▲	13.4	28cc	NA	NA		●	●	
	DeWalt DXGST227SS	77	$200	I	▼▼	▲▲	▲▲	▲▲	▲▲	▲	13.6	27cc	NA	NA		●	●	●

PHOTO: ECHO

Brand + Model	Overall Score	Price	Survey Results		Test Results					Features							
			Predicted reliability	Owner satisfaction	Trimming	Edging	Tall grass and weeds	Handling	Ease of use	Weight (lb.)	Engine size	Volts	Battery platform voltage (V)	Four-cycle engine	Dual line	Clutch	Rotating head
GAS STRAIGHT SHAFT STRING TRIMMERS *Continued*																	
Craftsman WS2400	76	$230	○	⇊	⇈	⇈	⇈	↑	↑	13.4	27cc	NA	NA		●	●	
Troy-Bilt TB25S	72	$140	↓	↓	⇈	⇈	⇈	↑	↑	10.4	25cc	NA	NA		●	●	
Troy-Bilt TB304H	71	$240	↓	↓	⇈	⇈	⇈	↑	↑	15.4	30cc	NA	NA	●	●	●	●
Ryobi RY253SS	61	$200	○	↓	○	⇈	○	↑	↑	12.2	25cc	NA	NA		●	●	●
GAS CURVED SHAFT STRING TRIMMERS																	
$ **Stihl** FS 40 C-E	76	$120	○	⇈	⇈	↑	⇈	↑	↑	11.2	27cc	NA	NA		●	●	
✓ **Husqvarna** 130C	75	$220	○	↑	⇈	⇈	⇈	○	↑	11.8	28cc	NA	NA		●	●	
Troy-Bilt TB25C	70	$120	↓	⇊	⇈	⇈	⇈	○	↑	10.0	25cc	NA	NA		●	●	
Craftsman WC210	70	$230	↓	⇊	⇈	⇈	⇈	↑	○	11.5	25cc	NA	NA		●	●	●
Craftsman CMXGTAMDCS25	65	$180	↓	⇊	⇈	↑	⇈	○	↑	11.6	25cc	NA	NA		●	●	●
Ryobi RY252CS	60	$200	↓	↓	○	⇈	○	↑	↑	11.4	25cc	NA	NA		●	●	●
ELECTRIC CORDED STRING TRIMMERS																	
$ **Ryobi** RY41135	77	$75	○	○	⇈	⇈	⇈	↑	↑	10.0	10A	NA	NA	NA	●	NA	
✓ **Black+Decker** BESTE620	72	$95	○	↓	⇈	⇈	⇈	○	○	5.0	6.5A	NA	NA	NA		NA	●
Black+Decker GH3000	60	$130	○	↓	↑	⇈	↓	↑	○	6.9	7.5A	NA	NA	NA		NA	●
Toro 51480	56	$100	○	⇊	↑	○	○	○	↑	7.3	5A	NA	NA	NA	●	NA	●
BATTERY STRING TRIMMERS																	
✓ **Makita** XRU15PT	92	$370	⇈	⇈	⇈	⇈	⇈	⇈	↑	10.1	NA	36	18	NA	●	NA	
✓ **Ego** ST1502SA	91	$200	⇈	⇈	⇈	⇈	⇈	⇈	↑	10.2	NA	56	56	NA	●	NA	
✓ **Kobalt (Lowe's)** KST 2580-06	90	$250	⇈	○	⇈	⇈	⇈	⇈	↑	10.8	NA	80	80	NA	●	NA	
✓ **Ego** ST1623T	90	$300	⇈	⇈	⇈	⇈	⇈	↑	⇈	12.6	NA	56	56	NA	●	NA	
✓ **Makita** XRU23SM1	90	$250	⇈	⇈	⇈	⇈	⇈	⇈	↑	7.3	NA	18	18	NA	●	NA	
✓ **Ego** MST1603	89	$380	⇈	⇈	⇈	⇈	⇈	↑	↑	14.6	NA	56	56	NA	●	NA	
✓ **Milwaukee** 2828-21	88	$200	⇈	⇈	⇈	⇈	⇈	↑	↑	11.5	NA	18	18	NA	●	NA	
✓ **Cub Cadet** ST15E	88	$230	—	—	⇈	⇈	⇈	⇈	↑	10.3	NA	60	60	NA	●	NA	

HOW WE TEST: Overall Score is based on test results and survey data. **Predicted reliability** is how likely a model of a given brand will develop issues within five years of purchase, according to member surveys; **owner satisfaction** is the proportion of CR members extremely likely to recommend the model to others. A gray dash (—) indicates insufficient data for brand-level rating. To evaluate string trimmers, we tackle typical yard weeds and high grass, as well as dense brush. We time how long each model takes to clear a defined path, and test each model's ability to create a neat, straight line along a walkway. We also test for **ease of use.**

⇊ ↓ ○ ↑ ⇈
WORSE BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

Refreshing the House & Deck

A once-a-year deep clean of walkways and patios can keep them looking inviting. Replace the stain on your deck and fences every one to seven years. Exterior paint can last five to 10 years between applications.

PRESSURE WASHERS

● **HOW TO SHOP:** Pressure washers fall into gas and electric categories. Most electrics are corded, and tend to be cheaper and easier to use than gas. Some electrics are battery-powered, but most are pricey, underpowered, or both.

Gas models have more power and speed. They're a huge help for deep-cleaning a long-neglected deck, or removing oil stains from a driveway. Electric models can clean well, too, but typically take longer than gas to do it. They're best for routine maintenance—sprucing up a grill or cleaning your deck.

Whatever you choose, look for a model with a soap tank and nozzle. These allow you to saturate a surface with soapy water before blasting it clean.

● **WHAT TO AVOID:** Skip using the zero-degree nozzles. The focused intensity of the water sprayed from them can cause injury or property damage. —*P.H.*

$Greenworks PW18HYB

Brand + Model	Overall Score	Price	Survey Results		Test Results				Features						
			Predicted reliability	Owner satisfaction	Cleaning	Power	Noise	Ease of use	Weight (lb.)	Cord length (ft.)	Hose (ft)	Warranty (yr.)	Wheels	Soap/detergent dispenser	Trigger safety lockout
GAS POWERED															
Simpson MSH3125-S	75	$450	↑	⇈	⇈	↑	↓	↑	63.85	NA	25.0	5	Pneumatic	None	Manual
Westinghouse WPX3400	73	$335	–	–	⇈	⇈	↓	⇈	66.6	NA	25.0	3	Solid	Tank	Manual
DeWalt DXPW3123	72	$450	⇈	⇈	⇈	↑	↓	↑	55.5	NA	35.5	2	Solid	Tank	Manual
ELECTRIC POWERED 120V															
$ **Greenworks** PW18HYB	71	$200	⇈	⏐	↑	⏐	↑	⇈	27.5	35	25.0	3	Solid	Tank	Manual
✔ **DeWalt** DWPW2400	70	$330	⇈	⏐	↑	⏐	↑	⇈	49.0	35	26.0	3	Pneumatic	Tank	Manual
✔ **Greenworks** GPW2301	70	$300	⇈	⏐	↑	↓	↑	⇈	38.1	35	25.0	3	Solid	Tank	Manual
✔ **Greenworks** GPW3001	70	$430	⇈	⏐	↑	⏐	↑	⇈	48.5	35	25.0	3	Solid	Tank	Manual

PHOTOS: MANUFACTURERS

✓ **Behr Premium Solid Color Waterproofing Stain & Sealer**

DECK STAINS

● **HOW TO SHOP:** Solid stains protect best—helping wood resist cracking, fading, mildew, and dirt for as long as five years. But they often leave wood looking like it was painted rather than stained. Semi-transparent stains offer less protection, and you'll likely need to reapply it every three or so years. But they allow some of the wood to shine through. Clear sealers protect the least, and you'll need to reapply every year or two.

● **WHAT TO AVOID:** Resist the urge to stain the wood too soon after you've installed your deck. Instead, wait four to eight weeks to give the wet pressure-treated wood time to dry out. —*P.H.*

Brand + Model	Overall Score	Price	Test Results			Features				
			Appearance after 1 year	Appearance after 2 years	Appearance after 3 years	Resists cracking	Resists color change	Resists dirt	Resists mildew	VOCs (grams/liter)
SOLID WOOD STAINS										
✓ **Behr (Home Depot)** Premium Solid Color Waterproofing Stain & Sealer	82	$50	⏫	⏫	🔼	●	●	●	●	100
✓ **Olympic** Elite Advanced Stain + Sealant in One Solid	80	$52	⏫	🔼	🔼	●	●		●	100
✓ **Valspar** One-Coat Solid (Lowe's)	71	$49	⏫	🔼	🔼	●	●	●	●	100
Benjamin Moore Arborcoat Solid Deck & Siding	69	$70	⏫	🔼	🟡	●	●	●	●	100
Cabot Solid Color Acrylic Stain + Sealer	69	$56	⏫	🔼	🔼	●	●	●		100
SEMI-TRANSPARENT WOOD STAINS										
Olympic Elite Advanced Stain + Sealant in One Semi-Transparent	41	$50	🔼	🔽					●	100
Ace Wood Royal Semi-Transparent Deck & Siding	35	$50	🔼	🔽					●	100
Benjamin Moore Arborcoat Semi-Transparent Deck & Siding	34	$75	🔼	⏬					●	100
PPG ProLuxe Cetol SRD Semi-Transparent Wood Finish	33	$75	🔼	⏬					●	100
CLEAR SEALER WOOD STAINS										
Behr (Home Depot) Premium Transparent Waterproofing Wood Finish	27	$35	🔽						●	100
Olympic Wood Protector Waterproofing Sealant	17	$29	🔽						●	78
Thompson's WaterSeal Clear Wood Sealer	12	$22	⏬						●	100
Cabot Clear Wood Protector	9	$36	⏬							50
Valspar One-Coat Clear (Lowe's)	5	$28	⏬							100
Olympic WaterGuard for Wood	5	$30	⏬						●	79

HOW WE TEST: **Overall Score** is based on our test results and survey data. To rate **pressure washers**, we measure which models produce a higher PSI (pounds per square inch). Then we time how long models take to strip paint from painted plastic panels. We also measure **noise** and size up **ease of use**. **Predicted reliability** is the likelihood that a model of a given brand will develop issues within three years of purchase, per our survey results; **owner satisfaction** is the proportion of CR members extremely likely to recommend the model to others. A gray dash (—) indicates insufficient data for brand-level rating. To rate **deck stains**, we apply two coats to pine boards, then place them on our roof in Yonkers, N.Y. The boards are faced south and angled down to intensify the effects of the sun and weather. We take note of the boards' condition after one, two, and three years. Each year of testing is equivalent to a year on your deck or about three years on siding or a fence.

⏬ 🔽 🟡 🔼 ⏫
WORSE — BETTER

✓ CR RECOMMENDED

$ CR SMART BUY

EXTERIOR PAINTS

● **HOW TO SHOP:** Even if you're hiring someone to paint your house, it's a good idea to make sure the contractor is using a great paint. Our ratings can tell you which ones are likely to last the longest (meaning fewer paint jobs and easier maintenance in between).

You'll also want the right type for your climate. Warm regions with high sun exposure may require UV- and mildew-resistant acrylic-based formulas, while cold areas that see plenty of ice and snow require "cold set" or "low temperature" paint. Finally, consider the finish. Flat finishes can camouflage imperfections. The slight gloss of eggshell or satin looks best on newer, smoother surfaces. Highlight trim and detailing with semi-gloss and gloss finishes.

● **WHAT TO AVOID:** Oil-based paints dry harder, so they can crack when temperatures fluctuate.
—Tanya Christian

EXPERT TIP

> **"If you find a color you like (from any brand), your local paint store can use color-matching technology to create it in the highly rated brand of your choice."**
>
> **LI WANG,**
> CR Test Leader, Exterior Paints

EXTERIOR SATIN ENAMEL
BEHR
ULTRA
STAIN-BLOCKING & PRIMER IN ONE
ITY + HIDE IN FEWER COATS
RRANTY

✓ **Behr Ultra Exterior**

	Brand + Model	**Overall Score**	**Price**	**Test Results:** Appearance after 3 years	Appearance after 6 years	Appearance after 9 years	**Features:** Resists cracking	Resists color change	Resists dirt	Resists mildew	VOCs (grams/liter)
	EXTERIOR PAINTS (COMPLETED THE EQUIVALENT OF 9 YEARS' EXPOSURE)										
✓	**Behr (Home Depot)** Marquee Exterior	75	$61	⇈	↑	↑	●	●	●	●	50
✓	**Behr (Home Depot)** Ultra Exterior	75	$42	⇈	↑	↑	●	●	●	●	50
✓	**Clark + Kensington (Ace)** Exterior	75	$47	⇈	⇈	↑	●	●	●	●	50
	Sherwin-Williams Emerald Exterior	73	$72	⇈	↑	↑	●	●		●	50
	Behr (Home Depot) Premium Plus Exterior	72	$31	⇈	⇈	↑	●	●		●	50
	Valspar DuraMax Exterior (Lowe's)	72	$39	⇈	↑	↑	●	●		●	50
	HGTV Home by Sherwin-Williams (Lowe's) Everlast Exterior	69	$79	↑	↑	↑	●			●	50
	Benjamin Moore Regal Select Exterior	68	$83	⇈	↑	↑	●	●		●	50
	HGTV Home by Sherwin-Williams (Lowe's) WeatherShield	58	$41	⇈	↑	❙	●	●		●	50
	Sherwin-Williams Duration Exterior	57	$94	↑	↑	❙	●			●	50
	Glidden One Coat Exterior	57	$42	↑	↑	❙	●	●		●	50
	Ace Royal Exteriors Exterior	55	$28	⇈	↑	❙	●	●		●	50
	Benjamin Moore Aura Exterior	55	$68	↑	↑	❙	●			●	50
	Valspar Storm Coat (Lowe's)	54	$36	⇈	↑	❙	●	●		●	100
	Glidden Premium Exterior (Home Depot)	52	$31	⇈	↑	❙	●				50

HOW WE TEST: Overall Score is based on the results of all our tests. CR's test engineers test exterior paints similarly to deck stain (see page 97). They paint pine panels and place them on our roof, where they sit for three years. Panel boards are positioned to face south and are tilted to intensify the effects of sun and weather. One year of CR's testing is equivalent to about three years in real time. The results give a sense of how paints will look after nine years on a house.

PHOTO: BEHR

⇊ ↓ ❙ ↑ ⇈
WORSE — BETTER

✓ CR RECOMMENDED

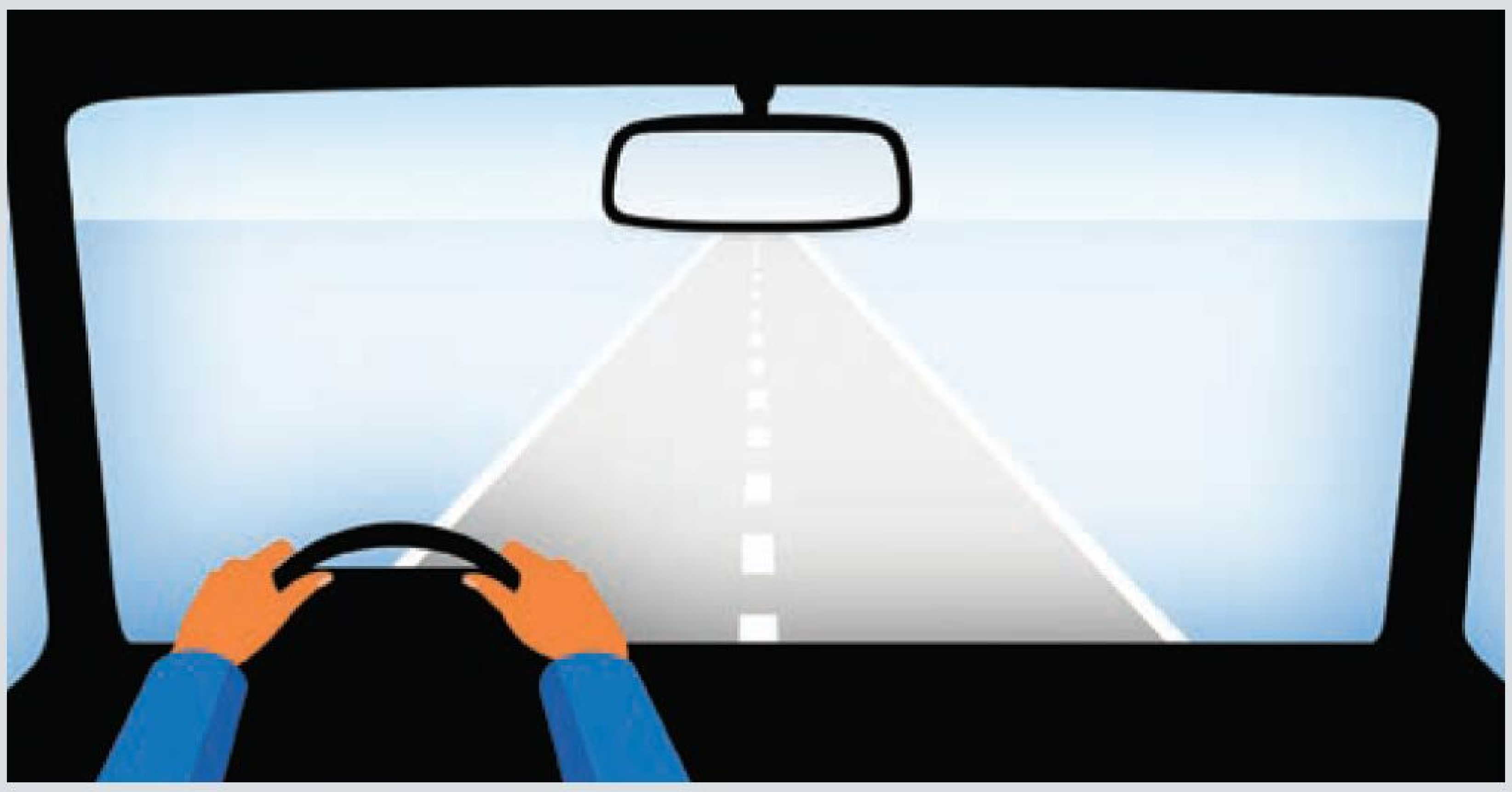
ROAD REPORT

NEWS & EXPERT ADVICE TO KEEP YOU AHEAD OF THE CURVE™

ASK OUR EXPERTS

Does my car insurance cover a rental car?

If your car insurance includes collision and comprehensive coverage, the answer is most likely yes, says Loretta Worters, a spokesperson for the Insurance Information Institute. Still, you should check with your carrier, and keep in mind that your insurance coverage probably doesn't extend to foreign countries other than Canada and Mexico. Contact the U.S. embassy in any other country you're planning to visit for local guidance. Some credit cards include rental insurance among their perks (see page 71). Not covered? Most car rental companies will sell you insurance at an additional cost if your current coverage doesn't have rental car protection.



TIP FROM THE TRACK

Clear a Foggy Windshield Fast

For the quickest fix, **turn on the defroster.** This will automatically engage the air conditioner and a high fan speed, directing warm, dry air to the windshield. As visibility returns, you can turn down the noisy fan and rely on your **climate control system** to keep windows fog-free. Use the Fresh Air mode (not the Recirculation mode) because this will remove the moist air causing the fogginess. **Resist the urge to wipe the windshield** with a cloth as that can cause streaks that may obscure your view in direct sunlight or when driving toward headlights.

THE VITAL STATISTIC

59

The percentage of Americans who engage in at least one dangerous driving behavior, like speeding or texting, according to the AAA Foundation for Traffic Safety. "Many people know better yet still drive recklessly," says William Wallace, CR's associate director of safety policy.

RECALL

Ford Explorer

A recall has been announced for 1,889,110 Ford Explorer SUVs from the 2011 to 2019 model years because of concerns that an exterior trim piece on the A-pillars, which flank the windshield, may detach. If the trim falls off when driving, it could create a hazard for others on the road, increasing the risk of a crash.
WHAT TO DO: Ford dealerships will inspect and replace the A-pillar trim as necessary, free of charge. For more information, call Ford at 866-436-7332.

FIRST DRIVE

PHOTO: JOHN POWERS/CONSUMER REPORTS

Chevrolet Colorado

The redesigned Colorado comes in just one body style: a four-door crew cab with a short bed. It's fitted with a 2.7-liter turbo four-cylinder engine, available with 237 hp or 310 hp, as in our tested truck.

CR'S TAKE: There are improvements throughout. Power, ride, and handling are now all competitive with trucks in its class. The upgraded interior, with larger screens and a more comfortable driving position, makes the truck more inviting. But the back seat remains snug.

BASE PRICE RANGE
$29,500-$60,540

DESTINATION CHARGE
$1,595

PRICE AS DRIVEN
$41,070

ILLUSTRATION BY KIERSTEN ESSENPREIS

Keep Your Car in Great Shape

Advice for where to get your car repaired, and how the right maintenance will save you lots of money.

BY BENJAMIN PRESTON

A**BBE HERZIG** recently took her college-age daughter's 2006 Honda Accord to a local repair shop for its yearly state safety inspection. The car failed the test, and the shop recommended a staggering $3,300 of work to replace worn suspension parts the mechanic said he'd found.

Worried that what they were suggesting was unnecessary, Herzig took the car to another local shop, where it passed inspection quickly. "But I wondered if the second place even looked at the car," she says.

So when she took the car to a third place—a shop where she had a tire replaced on another car—she shared with them the first shop's expensive estimate. Here the mechanic took her onto the shop floor to show her the parts of the car that needed attention soon to ensure safety. He assured her the car was safe for the time being.

"Simply checking with someone else saved a ton of money," Herzig says. Plus, because the mechanic took the time to show her what was needed and why, she had greater confidence in the necessity of the proposed work. And by getting another opinion, she was able to lower the repair bill on her daughter's car to just under $2,000.

As Herzig found, getting your car the regular maintenance and repairs it needs—and finding a mechanic you trust to do it—can be challenging. And yet, with cars on American roads an average 12.5 years old in 2023, according to the federal Bureau of Transportation Statistics, it's important to stay on top of maintenance and minor repairs before they become bigger—and more expensive—problems.

In fact, according to CR's auto experts, keeping your car well maintained is the best thing you can do to make it last longer. "Staying on top of regular maintenance, and getting repairs done before they create other problems, will save you money in the long run," says John Ibbotson, chief mechanic at Consumer Reports' Auto Test Center. "But you should also think about where you're getting that service done. You might be able to save a few bucks by going to whichever shop offers the cheapest prices, but if you want consistent, reliable service, it's best to find a repair shop you trust and stick with it."

Going to the same shop also means the facility will have a record of the work that has been done, and will know what parts to keep an eye on, says Ibbotson. "That makes it easier for you to follow a regular maintenance schedule to keep your car in good condition, and for them to predict when certain repairs are likely to be needed," he says. For example, if the car has an oil seep, they'll know about it, and will tell you when it becomes a significant leak that needs fixing.

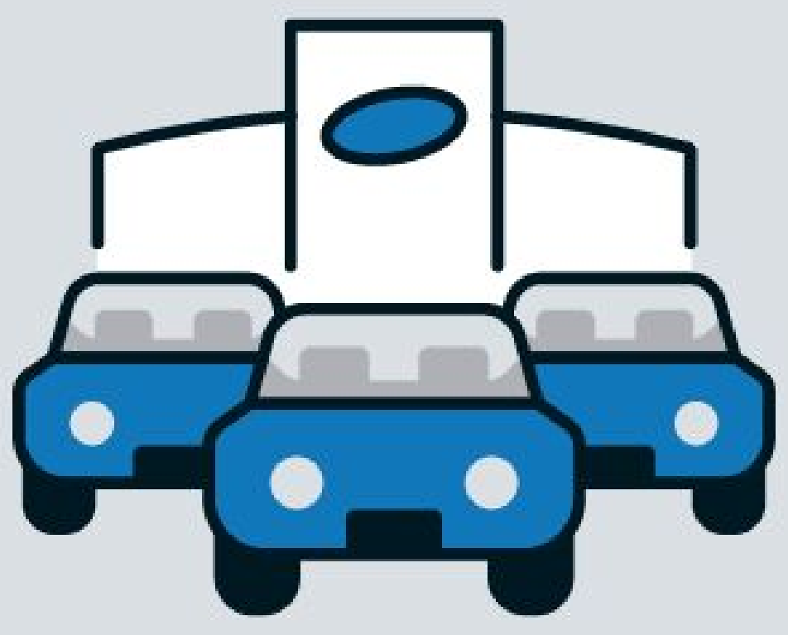
How to find the best shop for you? Start by understanding your options.

ILLUSTRATIONS BY SEAN MCCABE

TOYOTA
AAA
HONDA
Firestone
Firestone
since 1926
COMPLETE AUTO CARE
TESLA

Dealerships, Independents, or Chains?

There are three basic types of repair facilities: dealership service departments, independently owned repair shops, and chains. The best option for you depends on your car and your situation.



Dealerships

Dealership service departments are usually great for the first few years, when your new car is under warranty. This is especially true if you don't plan to keep the car much longer than that. A car that's been dealer-serviced may be more appealing to potential buyers, including the dealership itself. After that, however, the higher labor costs aren't often worth it.

"Service departments are a profit center for the dealership," says Mike Crossen, a mechanic at CR's Auto Test Center who is also an ASE-certified master technician with years of experience working in dealership service departments. "They are obligated to handle warranty and recall repairs but also offer other repair services that might be cheaper to have done elsewhere."

The dealer will have the factory original parts for your vehicle, as well as technicians trained by the manufacturer to be familiar with repairs specific to the brand. Dealerships are also equipped with expensive factory diagnostic computers. According to CR's repair shop survey, satisfaction ratings for dealer service departments range from very good (Acura, Lexus, Mazda, and Volvo) to not-so-good (Jeep and Kia). So your experience may depend upon what kind of car you own.

BEST FOR

Fixing infotainment system glitches

"If the screen in the center of your dash has a habit of freezing up, or the touchscreen-activated climate controls aren't working, the dealership is the most likely place to find someone with the know-how to fix problems that maybe only a factory-authorized technician can access," Ibbotson says.

PRICE: VARIES WIDELY

Safety system recalibration

"Anything from a crack in your windshield to a minor fender dent can upset the calibration of the sensors that make features like automatic emergency braking and adaptive cruise control work," says Ibbotson. The sensors can be located on the thin plastic that covers your bumpers, or inside the windshield. Many independent shops aren't equipped to recalibrate the sensors so that they can accurately calculate the car's position in relation to other cars and road hazards. The dealership will most likely have the equipment and experience to do this work correctly.

PRICE: $300-$600

Software updates

Modern cars are basically rolling computers, with dozens to hundreds of computer modules controlling everything from power windows to engine and transmission operation. "A software malfunction can cause any number of problems—a poorly shifting transmission or exterior lights that don't illuminate, for example—and may have to be tackled at the dealership, which should have technicians trained on these specific problems," says Ibbotson. Newer cars may be able to receive software updates wirelessly, but older ones will need face time with a technician if there's an issue.

PRICE: $150-$200 (MORE FOR LUXURY MARQUES)

Warranty repairs and recalls

When a manufacturer issues a recall for things like faulty airbag components or malfunctioning brakes, the dealership will fix the problem free of charge. Same with malfunctioning cars still under a factory warranty. "An independent shop could possibly fix the problem, but you would have to pay," Ibbotson says.

PRICE: $0

NOT SO GREAT FOR

Saving money on service and repairs that could be done at a qualified independent shop for less.

Independent Repair Shops

Independent shops can be a great option for someone who wants top-notch service from experienced technicians but also wants to save money on parts and labor compared with what a dealership might charge. According to CR's repair shop survey, independent repair shops received excellent scores for honesty, quality of work, time to complete the repair, and communication. They also received very good scores for price and getting the problem solved on the first visit.

And while independent repair shops can do most of what a dealer service department can, "some specialize in certain types of vehicles, such as luxury European cars, or even EVs," says Crossen. When your car has a problem, Crossen says, the

PHOTOS IN ILLUSTRATIONS, PREVIOUS SPREAD AND RIGHT: ISTOCK; GETTY IMAGES; RICK BOWMER/AP PHOTO; AAA; FIRESTONE

ICONS BY ELIAS STEIN

independent shop you visit regularly should give you an honest appraisal of what's needed, and refer you to a specialist or dealership if they don't think they can handle the job.

BEST FOR

Basic maintenance

"Simple maintenance like oil changes or fluid level checks that aren't covered by a new-car warranty don't need to be done by a factory-trained mechanic," says Ibbotson. "Any experienced tech will do. Performing these procedures are good opportunities for your regular independent technician to check in on your car's overall health."

PRICE: $131-$145 (OIL CHANGE)

Suspension shock/strut

How long shocks and struts last depends on the road surfaces you drive on. Rough roads wear them out more quickly. Worn struts, shocks, and other suspension parts can lead to unsafe braking and handling. Replacing them is usually pretty straightforward and can be handled by any competent mechanic.

PRICE: $924-$1,043

Major engine repair

Labor-intensive jobs such as a timing belt replacement or a new transmission installation can usually be handled well by an independent repair shop.

PRICE: $1,915-$2,220 (HEAD GASKET REPLACEMENT)

Water pump

This is an essential part of your car's cooling system (even in EVs), and will eventually wear out and need replacement. "Independents can replace it when needed," Ibbotson says.

PRICE: $732-$866

Alternator

In a car with a conventional engine, the alternator converts engine power into electricity to charge the battery and power electronic components. "How easy it is to replace depends on the car's make and model, but most shops should be able to do it," says Ibbotson. "Hybrid cars have a different

How to Save Money on Repairs

CR's chief mechanic, John Ibbotson, says it's risky to try to get a "deal" on auto repair. While you might save hundreds of dollars, the work may not be good, leading to more, potentially bigger, problems down the road. But there are ways to handle repairs your car needs before they snowball into something worse, and save a few bucks in the process.

Ask your shop for a discount. You may be able to get a lower price just by asking for coupons and straight-up discounts. Plead your case. Tell them the repair is expensive for you, says Mike Crossen, a CR mechanic. According to CR's repair shop survey, independent shops and some chains were rated highly for their discounts. Independent shops also received favorable scores for willingness to negotiate, while the dealerships we were able to rate received dismal scores.

Use a AAA-approved shop. Members of AAA can choose from a list of approved repair facilities, which are required to have certified technicians. Furthermore, AAA offers a 10 percent discount on labor (capped at $75 in some areas).

Do easy maintenance yourself. Engine air filters and cabin air filters are usually pretty straightforward to replace, and there's probably a YouTube video that will show you how to do it. You can also save time by performing your own fluid level checks (low levels in a closed system like brakes or cooling indicate a problem that should be checked by a tech).

Go to an auto parts store. If you need a new battery, say, many auto parts stores will test the old one to see whether it actually needs replacing, and they may even install the new one for free. Repair shop labor rates are $165 per hour, on average, according to RepairPal, so even 15 minutes of a mechanic's time can add plenty to a bill.

Be proactive. "The squeaky wheel gets the grease, or it should, anyway," says Crossen. "If your car is leaking fluids or making an abnormal noise, get it checked out pronto. Timely action could save you a lot of money." For example, if your car has an oil leak, ignoring it could cause the engine to run low on oil, which can lead to catastrophic engine damage.

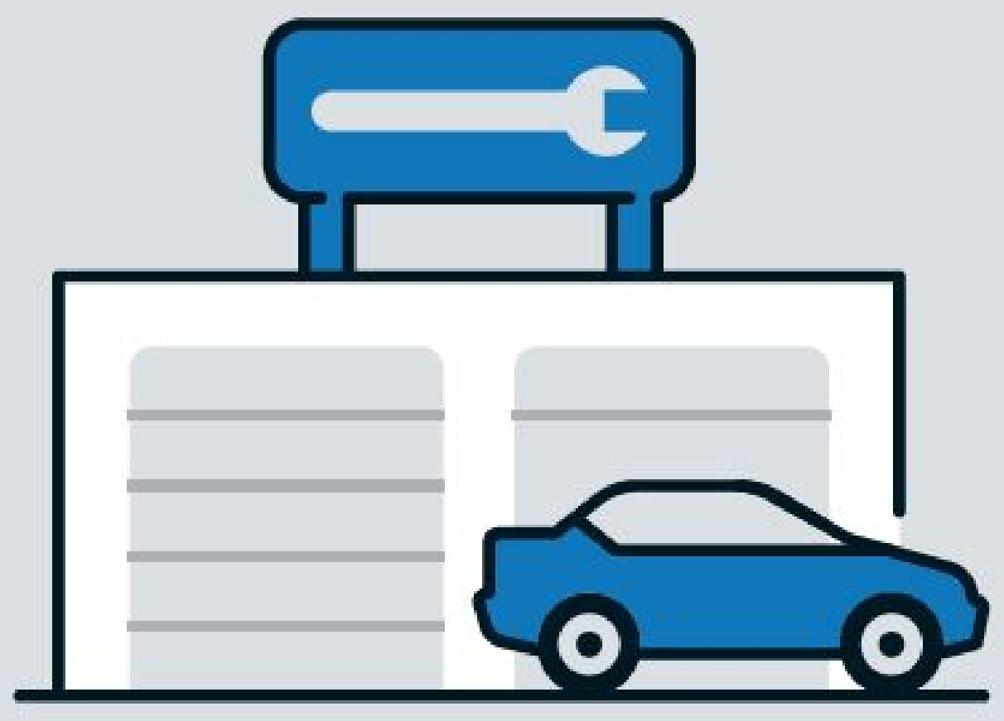
All prices based on CR survey data and/or Caliber.com and RepairPal estimates.

type of system, so if the battery isn't charging, you'll probably have to go to a dealership or hybrid specialist."

PRICE: $638-$821

NOT SO GREAT FOR

Recall fixes are best handled by dealerships, which are informed about the needed work directly by automakers.



Chains

Overall, chain repair shops scored near top level in our ratings, and Goodyear Auto Service received top-level scores for overall satisfaction. "Chain repair shops can be a great place to get basic service such as tire installations and wheel alignments at a reasonable price," Ibbotson says. "But generally speaking, independent repair shops are better for most other repairs because they usually have more experienced technicians."

BEST FOR

Tires

Tire replacement is sometimes cheaper at a tire repair chain. Be wary, though, of repair recommendations when it comes to other car parts. Also, "don't feel forced into getting whatever tires the place has on the shelf," says Ryan Pszczolkowski, CR's tire program manager. "First determine the type of tires you need, then ask the shop to order them. Most will."

PRICE: $169-$240 (PER TIRE)

Alignment

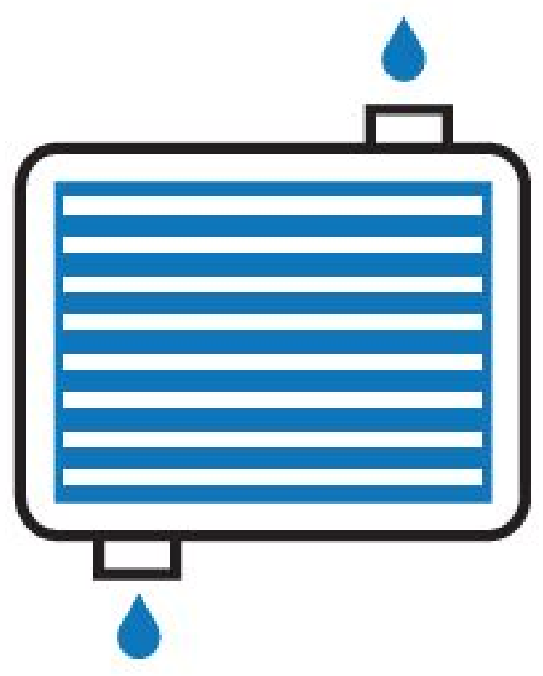
You should get the wheels aligned when you buy tires (or have suspension parts replaced). Most tire chains have alignment equipment and technicians.

PRICE: $138-$174

NOT SO GREAT FOR

More complicated repairs that need an experienced technician.

Your Maintenance



Coolant flush

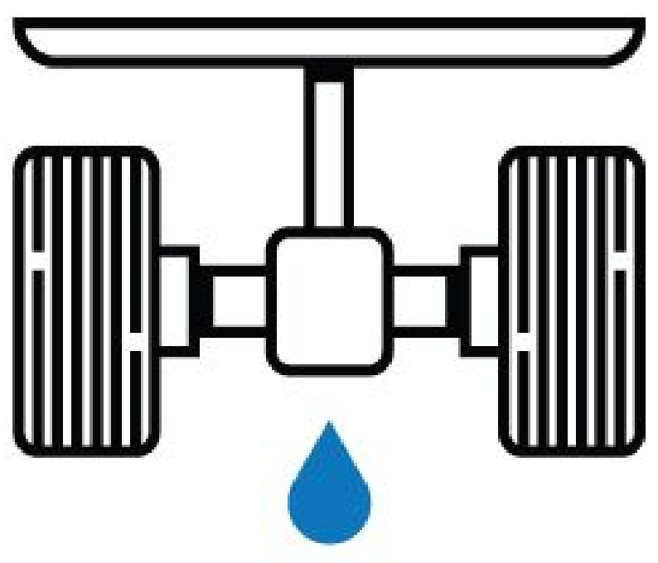
INTERVAL: Up to 100,000 miles
PRICE: $373-$400

Time and engine operation change the pH of the coolant, which can damage parts like head gaskets. Some coolants last two years, and some types will last several years. Be sure your mechanic uses the correct type for your car.

Oil change

INTERVAL: 5,000, 7,500, and 10,000 miles are the most common
PRICE: $131-$145

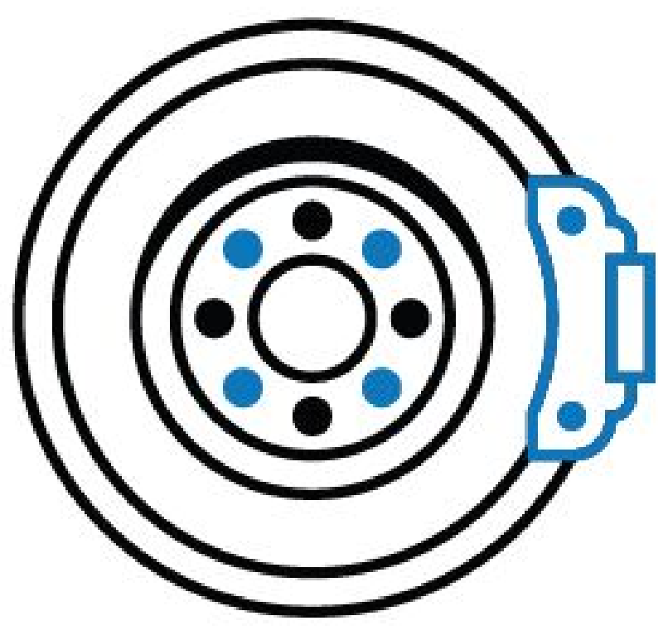
Engine oil lubricates and cools internal engine parts, and changing it according to the owner's manual keeps it free of the dirt and debris that naturally build up during normal engine operation.



Rear differential fluid change

INTERVAL: See owner's manual (30,000-60,000 miles)
PRICE: $84-$99 (depends on model)

Many popular car models are equipped with all-wheel drive, which includes an oil-filled rear differential. This oil should be changed according to the manufacturer's maintenance schedule.



Brake pads

INTERVAL: Typically 25,000-50,000 miles (have inspected at every oil change)
PRICE: $259-$300

"Ask your shop to use the best brake pad and rotor replacement parts possible, because poor-quality parts can impact braking performance," says John Ibbotson, CR's chief mechanic.

UPKEEP YOUR CAR MAY NOT NEED

A repair facility may recommend a service more frequently than your car manufacturer recommends, or repairs that go beyond fixing what's presently broken. While following tighter maintenance intervals certainly won't hurt your car, overkill means overpaying in most cases. Here are services you may not need.

Tighter service intervals: If your mechanic suggests coming in for oil changes or tire rotations that are more frequent than what's in the car's owner's manual, don't be afraid to ask why, or to push back if you don't think your driving counts as "severe duty."

Checklist

Nothing will do more to make your car last longer than keeping on top of basic upkeep, CR's experts say. While the best source for maintenance intervals is your car's owner's manual, these are the general guidelines.

Tire rotation

INTERVAL: When you see uneven treadwear
PRICE: $35-$45

The front wheels tend to wear more quickly than the rear ones. To make the tires wear more evenly and last longer, they should be rotated from front to back, and vice versa, periodically.

Tire balancing

INTERVAL: Not needed unless a problem arises
PRICE: $27-$34 per tire

Tires can sometimes wear in a way that causes them to go off-balance and vibrate, prematurely wearing brakes, wheel bearings, and other suspension parts. It's important to get them rebalanced so that they spin smoothly.

Wipers

INTERVAL: At least once per year
PRICE: $68-$86

Heat and cold, as well as road surface debris like salt, can degrade the rubber on your wipers. Dry, cracked blades will smear dirt and moisture over your windshield instead of wiping it away, leading to reduced visibility.

Spark plugs

INTERVAL: Around 100,000 miles
PRICE: $212-$276

Although they usually last about 100,000 miles, spark plugs wear over time and need replacing. "Spark plugs are easier to replace in some cars than others, but any shop should be able to change them," Ibbotson says.

Timing belt

INTERVAL: 60,000-120,000 miles
PRICE: $603-$785

Some cars have timing chains that can last the life of the engine. Others have rubber timing belts that need to be replaced according to the recommended maintenance schedule. It's a fairly involved job, but most shops can do it.

Lightbulbs

INTERVAL: When one burns out
PRICE: Varies (LEDs are more expensive)

Headlamp and taillamp bulbs should last years, but when they burn out, replace them with the factory recommended model. Don't use "brighter" aftermarket versions that can strain the car's electrical system.

ICONS BY TIM BOELAARS

More expensive oils and fluids: Stick with the owner's manual recommendations. "A shop may recommend synthetic fluids for a service, but if your car's owner's manual doesn't require them, there's no need to pay extra," says Mike Crossen, a CR mechanic.

Flushes: Coolant, power steering fluid, differential oil, and brake fluid occasionally need to be changed. Fluid flushes use a machine that sucks out the old fluid and pumps new fluid in. "Flushes aren't always necessary when they're offered outside the regular maintenance schedule," Crossen says. "It depends on the severity of use and the make and model of your vehicle."

Parts that aren't fully worn out yet (but could use replacement at some point in the future): "Let's say a CV half shaft in a front- or all-wheel-drive car is worn on one side of the car, and the shop says you need to replace the pair of them," says Ibbotson. "One half shaft doesn't have much to do with the other side, so you can just replace the side that's broken and save yourself some money for the time being."

Ratings ❯ **Fixing It** CR members were pleased with the quality of auto repairs done by most independent, chain, and dealership mechanics, but independents scored highest for overall satisfaction, price, and several other attributes.

Auto Repair Provider	Reader Survey Results											
	Overall Satisfaction Score	Honesty	Price	Quality	Time to complete	Communication	Problem solved	Perks	Willingness to negotiate	Discounts	Accuracy of the initial cost estimate	Proximity or convenience	Guarantees
INDEPENDENT MECHANICS AND AUTO REPAIR CHAINS												
Independent Mechanic	96	⇈	↑	⇈	⇈	⇈	↑	❙	↑	↑	⇈	⇈	⇈
Goodyear Auto Service	88	⇈	❙	⇈	⇈	⇈	↑	–	–	–	⇈	⇈	⇈
AAA Car Care Plus	79	⇈	❙	⇈	↑	⇈	⇈	–	–	↑	↑	⇈	↑
Midas	67	↑	❙	↑	↑	↑	↑	–	–	–	↑	⇈	↑
Christian Brothers Automotive	67	↑	↓	↑	❙	↑	❙	–	–	–	↑	⇈	⇈
Firestone Complete Auto Care	66	↑	❙	↑	↑	↑	↑	–	–	↑	↑	⇈	↑
DEALERSHIPS												
Acura Dealer	68	↑	↓	↑	↑	⇈	↑	⇈	–	❙	⇈	❙	↑
Lexus Dealer	67	↑	⇊	⇈	↑	↑	↑	⇈	⇊	↓	↑	❙	↑
Mazda Dealer	66	↑	⇊	↑	↑	↑	⇈	❙	–	↓	↑	↑	↑
Volvo Dealer	61	↑	⇊	↑	❙	↑	↑	↑	–	–	↑	❙	↑
Toyota Dealer	60	↑	⇊	↑	❙	↑	↑	❙	⇊	↓	↑	↑	↑
Tesla Owner Center	60	↑	↓	↑	❙	❙	❙	–	–	–	↑	❙	↑
Honda Dealer	60	↑	⇊	↑	❙	↑	↑	❙	⇊	↓	↑	↑	↑
GMC Dealer	59	↑	⇊	↑	❙	↑	↑	❙	⇊	↓	❙	↑	❙
Buick Dealer	59	↑	⇊	↑	❙	↑	⇈	❙	–	–	❙	↑	↑
Chevrolet Dealer	59	↑	⇊	↑	❙	↑	↑	❙	⇊	↓	❙	↑	↑
Audi Dealer	58	↑	⇊	↑	↓	↑	↑	↑	⇊	⇊	↑	❙	↑
BMW Dealer	57	↑	⇊	↑	❙	↑	↑	↑	⇊	⇊	↑	❙	↑
Dodge Dealer	56	↑	⇊	↑	❙	↑	↑	–	–	–	❙	↑	❙
Subaru Dealer	56	↑	⇊	↑	❙	↑	↑	❙	⇊	↓	↑	❙	❙
Cadillac Dealer	53	❙	⇊	↑	↓	❙	↑	–	–	–	❙	❙	–
Mercedes-Benz Dealer	52	❙	⇊	↑	↓	❙	↑	↑	–	–	❙	↑	❙
Volkswagen Dealer	52	↑	⇊	↑	❙	↑	❙	↓	–	–	❙	❙	❙
Ford Dealer	52	↑	⇊	↑	↓	❙	❙	↓	⇊	⇊	❙	↑	❙
Nissan Dealer	52	❙	⇊	↑	❙	❙	↑	❙	⇊	↓	❙	↑	❙
Hyundai Dealer	44	❙	⇊	❙	↓	❙	❙	↓	⇊	⇊	❙	❙	❙
Jeep Dealer	40	❙	⇊	❙	⇊	❙	↓	–	–	–	↓	❙	❙
Kia Dealer	38	❙	⇊	❙	⇊	↓	❙	↓	–	⇊	❙	❙	↓

HOW WE SURVEY: The ratings are based on Consumer Reports' 2023 Summer Survey of 10,973 CR members reporting on 11,670 repair shop experiences. **Overall Satisfaction Score** is derived from CR members' ratings for honesty, price, quality, time to complete, communication, and problem solved, as well as our CR Consumer Experience Score (not included in the ratings table). A dash (–) means there was insufficient data to determine a score. See more at **CR.org/repairshop**.

⇊ ↓ ❙ ↑ ⇈
WORSE — BETTER

Secrets to a Cleaner Car

THE CAR CARE AISLE at the auto parts store is lined with shelves of soaps, polishes, waxes, tire cleaners, and other preparations, all promising to keep your car looking like it's just off the lot. The truth is, if your car's finish isn't damaged, giving it a good cleanup requires just a few simple products and practices.

Is it better to do it yourself rather than heading to a car wash? According to CR's chief mechanic, John Ibbotson, the brushes in some automatic car washes can hold dirt particles from other cars that could damage your vehicle's finish. "There are 'touchless' washes that don't use brushes, but they also don't always clean your car thoroughly," he says. Hand-washing your car gives you an opportunity to do a thorough cleaning and to detect and address problems like surface rust or loose trim before they become bigger and potentially expensive problems. Read on for our expert advice on which types of products work best, and how to use them when you decide to do the job yourself.

—Benjamin Preston

WASHING

WHAT TO USE: Any soap specifically designed for automotive use will be mild enough to not damage the paint or strip the wax, and it won't leave spots on your car's finish.

HOW TO DO IT: Follow the guidance on soap; more is not better. The suds will loosen dirt and grime; use a soft sponge or lambswool mitt to scrub. Wash in the shade: Direct sunlight can cause the soap to dry and leave stains. Work quickly, from the roof down, washing one section of the car at a time, in this order: Spray with water, wash with soapy water and the sponge using minimal pressure and a back-and-forth (not circular) motion, rinse off the soap with fresh water, move to the next section. Dry the car with a chamois or microfiber towel (air-drying can leave water spots). If there are bugs, tar, or sap on the car that won't come off with soap and a sponge, use an automotive bug and tar remover and be sure to rinse thoroughly.

CLEANING WHEELS & TIRES

WHAT TO USE: The same soap you use on the vehicle's body can work on the wheels, but built-up brake dust and splatters of road tar may require special cleaners. Choose one designed for the type of wheels on your car or that's labeled as safe for use on all wheels. The best cleaner for tires is soap and water. Special tire cleaners and dressings claim to offer protection and may make tires shine, but many can be harmful and attract dirt more quickly. Besides, tires are manufactured with their own built-in protectants.

HOW TO DO IT: Start with the wheel cleaner, if you're using one. Follow by washing with soap and a sponge and rinsing thoroughly. Be sure to use a separate sponge: Wheels pick up a lot of dirt, and you don't want to grind it into the paint. (Built-in waxes and other protective chemicals working their way to the surface of the tires can make them look dull after you wash them.)

WAXING

WHAT TO USE: Waxing won't improve the shine on a new car, but you should apply it at least once a season to protect the paint from damage by tree sap, bird droppings, and road salt that can cause the car to look dull after a while. CR's tests show that most car-specific liquid or paste waxes work well, but that even the best ones will last only several weeks before the protective film they provide wears off. Polish is a different thing, and it contains mild abrasives that strip away a thin layer of the finish. Use it only if your car's paint looks dull.

HOW TO DO IT: Apply wax away from direct sunlight, when the car's paint is cool to the touch. (First test the wax in a hidden spot like a doorjamb.) Apply the wax one small section at a time, with a microfiber cloth. Buff it off with another clean microfiber towel as soon as it has dried to a haze. Avoid getting wax on plastic trim: It can leave a residue that is a chore to remove.

ILLUSTRATION BY KIERSTEN ESSENPREIS

AUTO
A/C
ON/OFF
70
MAX
REAR

SMALL HATCHBACKS

✓ Buick Envista

Well Equipped But a Dull Drive

65

OVERALL SCORE

ROAD-TEST SCORE 67

HIGHS Lots of features for the price, secure handling, short stopping distances, hatchback versatility

LOWS Noisy cabin, uneven power delivery, low-end interior materials, no all-wheel-drive option

POWERTRAIN 137-hp, 1.2-liter turbocharged 3-cylinder engine; 6-speed automatic transmission; front-wheel drive

FUEL 29 mpg on regular

PRICE $22,400-$28,600 base price + $1,095 destination charge
Total MSRP as tested $26,480

BY MIKE MONTICELLO

THE ENVISTA EXPANDS the Buick line with a small, stylish model that blends elements of a car and an SUV. It comes well equipped for its modest price and carves a niche as a coupelike front-wheel-drive vehicle. But it's not without compromises, including a power delivery that can be either hesitant or abrupt, a noisy cabin, and a cheap interior. We also don't like that BSW and RCTW are extra-cost options and that highway-speed AEB isn't available.

DRIVING EXPERIENCE

The Envista's turbo three-cylinder feels energetic for a small engine, with ample mid-rpm power. It makes the most of its modest 137 hp, posting a 9-second 0-to-60-mph time, commendable for the class.

But we dislike the hesitation when stepping back on the gas pedal during rolling stops, made worse by an uneven burst of power that follows. The six-speed automatic isn't all that smooth nor is it keen to downshift, which keeps the engine at low revs, where it sounds and feels rather rough.

Ride comfort is decent on smoother roads, but bigger bumps or transverse ridges come through with a significant impact. Elevated road noise and the engine's gritty tone make for a loud cabin.

Handling feels mundane because of imprecise steering and a mushy suspension. That's why we were surprised when the Envista shamed a few sports cars in our avoidance maneuver with a 58.5 mph speed. It also showed strong stopping prowess in our panic-braking tests.

CABIN COMFORT

The slightly elevated front-seat height is appealing—higher than sedans, but lower than most SUVs. There's decent headroom, but the plastic center console can rub on the driver's right knee, and the armrests need more padding.

The front seats are firm, with minimal side bolstering, limited thigh support, and scratchy fabric. Two-way lumbar adjustment helps on longer trips, but these seats just aren't all that comfortable. At least heated front seats and a heated steering wheel are relatively inexpensive options.

The rear seat has good kneeroom and foot space under the front seats, but headroom is tight for taller adults.

CONTROLS AND USABILITY

We appreciate the climate system's straightforward dials and buttons. We also like that the Envista comes standard with wireless Android Auto and Apple CarPlay—not a given in this price range. But we found it annoying that you have to go through the infotainment screen to change what's displayed within the driver's instrument cluster.

PHOTOS: JOHN POWERS/CONSUMER REPORTS

Safety Term Glossary: AEB automatic emergency braking; **BSW** blind spot warning; **LDW** lane departure warning; **LKA** lane keeping assistance; **RCTW** rear cross traffic warning.

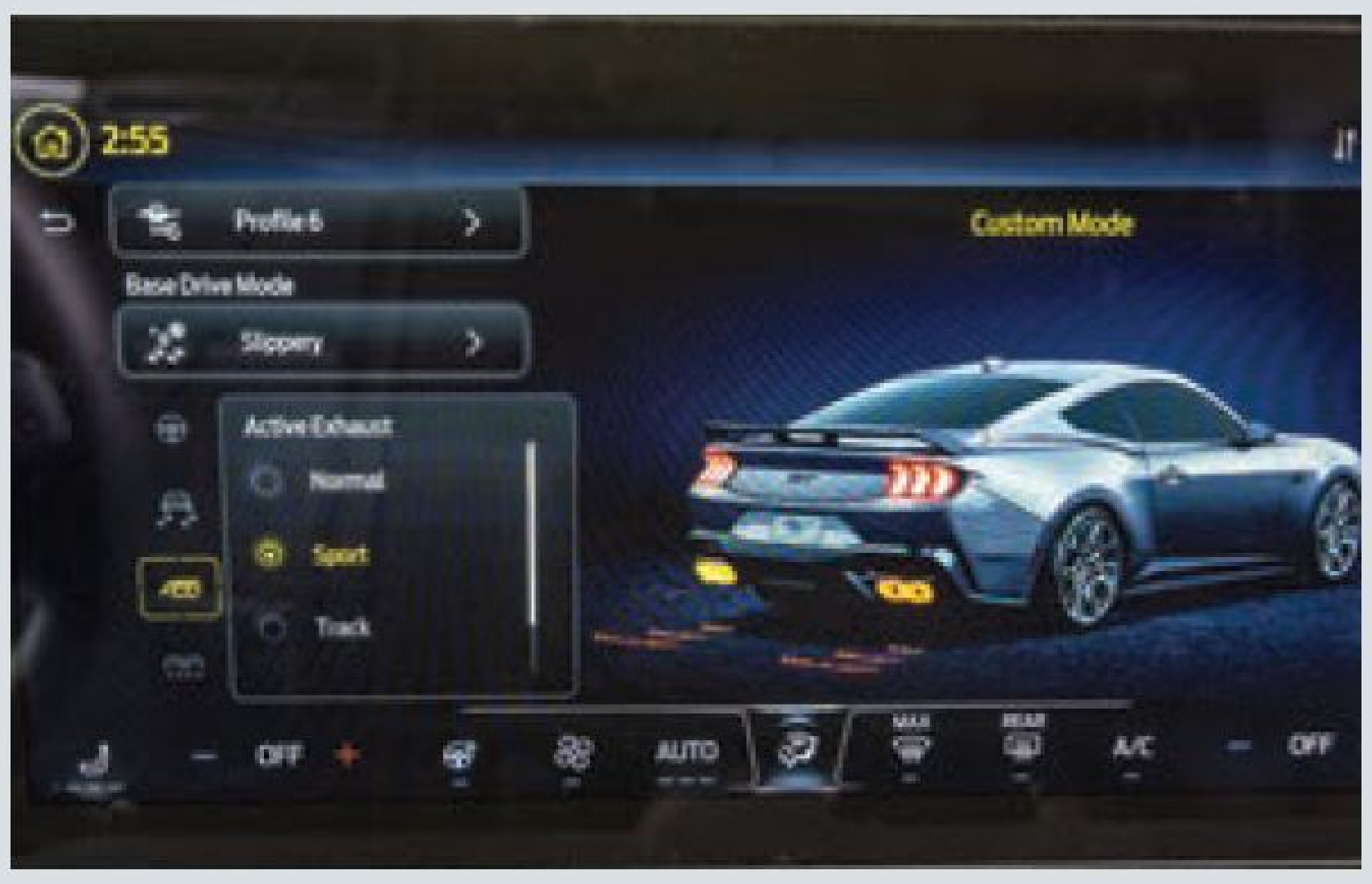
—Mike Monticello

SPORTS CARS

✓ Ford Mustang GT

A Thrilling Steed That's Surprisingly Comfortable

75
OVERALL SCORE



ROAD-TEST SCORE 76

HIGHS Quick acceleration, burly V8 sound, precise and easy-to-use manual shifter, enjoyable handling

LOWS Some unintuitive controls, awkward to get in and out of, tight rear seat

POWERTRAIN 480-hp, 5.0-liter V8 engine; 6-speed manual transmission; rear-wheel drive

FUEL 20 mpg on regular

PRICE $30,920-$63,480 base price + $1,595 destination charge
Total MSRP as tested $55,200

THE REDESIGNED seventh-generation Mustang retains this American automotive icon's legendary power, sound, and swagger but adds modern connectivity and safety features. For anyone who has ever fantasized about owning a Mustang, now may be the moment to "pony up" because this could well be the final version with a gasoline engine.

DRIVING EXPERIENCE

It's the 480-hp, 5.0-liter V8 that "makes" the Mustang GT. It thrills with a throaty, intoxicating roar, strong low-end torque, and high-revving horsepower. We also love the easy-shifting six-speed manual and novice-friendly clutch take-up. The fact that it rips from 0 to 60 mph in just 4.6 seconds is almost beside the point. You can also get the Mustang GT with a 10-speed automatic, and the base model has a turbocharged four-cylinder.

Handling is competent, but you feel the Mustang's weight through turns, and the vague steering telegraphs little to the driver about tire grip. (Our car didn't have the GT Performance Package with its stiffer suspension.) Still, it maintained a balanced and playful character when pushed around our twisty road course.

The ride is composed and absorbent for a sports car, making the Mustang a viable everyday vehicle—which can't be said for many of its breed. Cabin noise levels are fairly high, but we appreciated our tested car's optional Active Valve Exhaust, which can change the sound from mild to wild with the push of a button.

CABIN COMFORT

The interior presentation is respectable with padded windowsills, a soft-touch upper dash, and some exposed stitching. But there's also lots of hard plastic trim and rough edges here and there, which aren't befitting of our car's $55,000-plus price.

The Mustang has plenty of front headroom, and the driver has a good view of the gauges. The front seats are comfortable but they don't offer the lateral support you need for driving spiritedly through corners. Squeezing into the rear seat is a challenge. Once in place, foot room is decent and there's good under-leg support, but a lack of headroom means most adults simply won't fit.

CONTROLS AND USABILITY

The cockpit centers on a digital instrument panel and infotainment screen, replacing the traditional dual-cowl design from Mustangs of yore. But there are very few physical buttons, so even basic climate-control functions—like changing the fan speed or airflow mode—require rooting around in the center touchscreen's menus.

WORSE — BETTER

✓ CR RECOMMENDED

Favorites
Tune
FM Radio
AM Radio
SiriusXM
Sources
POWER

COMPACT PLUG-IN HYBRIDS (PHEVs)

Toyota Prius Prime

Practical and Fuel-Efficient With Some Flaws

76

OVERALL SCORE

ROAD-TEST SCORE 78

HIGHS Drives on electric power part time, excellent fuel economy when operating as a hybrid, quick acceleration, hatchback versatility

LOWS Access and outward visibility are hurt by sleeker styling, engine is noisy when pushed, uncomfortable rear seat

POWERTRAIN 220-hp, 2.0-liter 4-cylinder plug-in hybrid engine; electronic continuously variable transmission; front-wheel drive

RANGE 39[E] miles EV + 455 miles gas

FUEL 43 mpg on regular

PRICE $32,975-$39,670 base price + $1,095 destination charge
Total MSRP as tested $39,004

[E] Denotes EPA range.

AFTER A RADICAL REDESIGN, the Prius Prime plug-in hybrid electric vehicle (PHEV) is sleeker and more engaging to drive than before yet still highly fuel-efficient. But the swoopy new styling compromises interior room, access, and outward visibility.

DRIVING EXPERIENCE

PHEVs have the convenience of a gas-powered engine for long trips, but they can run on electric power—for an EPA-estimated 39 miles in the Prime's case—for commuting or around-town errands. Their relatively large battery packs can often be recharged overnight with a standard household wall outlet. (It took us 10 hours to charge the battery using the included charger.)

We measured 43 mpg after the battery was depleted, which is a significant drop from the 51 mpg overall we got with the regular all-wheel-drive Prius. This highlights the importance of plugging in a PHEV as often as possible to reap the efficiency benefits of the electric miles. One important note: The Prime isn't available with all-wheel drive.

There's more robust power for around-town driving in this Prius than in the previous Prime, which makes it easy to use only the electric motor. But when extra oomph is called for, such as merging quickly onto a highway, the four-cylinder gas engine turns on with a loud and raspy groan, which sours the driving experience. The Prime is quick, though: Its 6.9-second run from 0 to 60 mph is a nearly a 4-second improvement over the previous-generation Prime.

We enjoyed the car's newfound nimbleness thanks to tighter suspension tuning, and it posted an impressive 56.5 mph through our avoidance maneuver. Another slight benefit the Prime has over the regular Prius is ride comfort. Even with the large 19-inch tires on the XSE we tested, the suspension did a decent job of smoothing out most bumps.

CABIN COMFORT

Like the regular Prius, the Prime has reasonably comfortable front seats with supportive side bolsters. But also like the Prius, the driving position is odd: You sit very low yet the instrument panel is far away, and outward visibility is hampered by massive windshield pillars. The rear seat is tighter than in the last Prius, with limited headroom and very little leg support.

CONTROLS AND USABILITY

The electronic gear selector is likely to be perplexing at first due to the way you move the lever in an odd, L-shaped fore-and-aft pattern to shift into Drive or Reverse from Park. Also, the buttons and controls for the different hybrid modes can be confusing.

PHOTOS: JOHN POWERS/CONSUMER REPORTS

Safety Term Glossary: AEB automatic emergency braking; **BSW** blind spot warning; **LDW** lane departure warning; **LKA** lane keeping assistance; **RCTW** rear cross traffic warning.

Ratings › **What's Right for Your Life** The Buick Envista is budget-friendly, but the Mustang thrills with its mighty V8. The Prius Prime impresses with fuel efficiency and range.

Make + Model	Overall Score	Price	Survey Results		Road-Test Results											ADAS
		As tested	Predicted reliability	Owner satisfaction	Road-test score	Overall mpg	CR range, miles (E = EPA electric range)	Seat comfort front/rear	Usability	Noise	Ride	Fit + finish	Routine handling	Acceleration, 0-60 mph, sec.	Dry braking, 60-0 mph, ft.	BSW/RCTW
COMPACT HYBRIDS/PHEVs																
✓ **Kia Niro PHEV** 1.6H+E 🌿	85	$35,940	↑	↑	87	47	33ᴱ+460	↑ / ↑	↑	●	↑	●	↑	7.4	136	S
✓ **Toyota Prius (AWD)** 2.0H 🌿	80	$33,909	⇈	↑	76	51	570	↑ / ↓	●	●	●	●	↑	7.7	131	S
✓ **Kia Niro** 1.6H 🌿	79	$30,600	↑	●	83	45	500	↑ / ↑	↑	●	●	●	●	8.9	133	S
✓ **Hyundai Elantra Hybrid** 1.6H 🌿	77	$24,900	●	●	85	48	530	● / ●	⇈	●	↑	●	↑	8.7	127	S
✓ **Toyota Prius Prime** 2.0H+E 🌿	76	$39,004	↑	↑	78	43	39ᴱ+455	↑ / ↓	●	●	↑	●	↑	6.9	133	S
✓ **Toyota Corolla Hybrid** 1.8H 🌿	74	$25,145	↑	●	75	48	550	● / ●	↑	●	↑	●	↑	10.3	142	O
SMALL HATCHBACKS																
✓ **Subaru Impreza** 2.0L	76	$28,253	↑	●	78	29	480	↑ / ↑	↑	●	↑	●	↑	9.4	129	O
✓ **Kia Soul** 2.0L	73	$25,320	●	●	77	28	395	↑ / ↑	⇈	●	↓	●	↑	8.8	120	O
✓ **Toyota Corolla Hatchback** 2.0L	73	$24,263	↑	↓	70	36	470	↑ / ↓	↑	●	●	●	↑	8.7	129	O
✓ **Acura Integra** 1.5T	71	$34,395	●	↑	79	31	380	↑ / ↑	⇈	●	●	↑	↑	7.7	129	S
✓ **Nissan Kicks** 1.6L	65	$21,050	●	⇊	67	32	340	● / ↑	⇈	●	●	●	●	10.5	137	S
✓ **Buick Envista** 1.3T	65	$26,480	●	●	67	29	385	● / ●	↑	●	●	●	●	9.0	127	O
✓ **Hyundai Venue** 1.6L	64	$20,720	●	●	64	32	380	● / ↓	⇈	↓	↓	↓	↑	8.9	125	O
Chevrolet Trax 1.3T	57	$24,680	●	↓	64	31	430	● / ●	↑	●	●	●	●	9.5	131	O
SPORTS CARS 4/5-SEAT																
✓ **Subaru WRX** 2.4T	83	$33,227	↑	↑	83	25	420	↑ / ●	↑	↓	↓	●	⇈	5.8	124	O
✓ **BMW 230i** 2.0T	80	$39,595	↑	↑	85	31	425	⇈ / ⇊	●	↑	●	↑	⇈	6.4	128	S
✓ **Ford Mustang GT** 5.0L	75	$55,200	●	⇈	76	20	325	↑ / ⇊	●	●	●	↑	⇈	4.6	129	S
✓ **Honda Civic Si** 1.5T	71	$28,315	●	●	74	32	390	↑ / ↑	⇈	↓	↓	↑	⇈	7.3	134	O
Chevrolet Camaro 6.2L	68	$47,020	●	●	85	20	355	↑ / ⇊	↑	●	●	↑	⇈	4.4	112	O
Volkswagen Golf GTI 2.0T	61	$36,539	↓	⇊	85	28	365	↑ / ●	⇊	↑	●	↑	⇈	6.4	127	S

› Digital and All Access members can find the latest, complete ratings at CR.org/cars. When you're ready to buy, configure the vehicle and find the best price in your area by clicking the green "View Pricing Information" button on the model's dedicated page.

HOW WE TEST: Overall Score combines **road-test results,** survey data for **predicted reliability** and **owner satisfaction,** and advanced safety, which includes crash-test results and the availability of crash-prevention features, such as automatic emergency braking, pedestrian detection, blind spot warning, and rear cross traffic warning. O means that it's optional on at least some trim levels; S means that the feature is standard on all trims. We deduct points if a model's gear selector lacks fail-safes to prevent the vehicle from rolling away.

⇊ ↓ ● ↑ ⇈
WORSE ⟷ BETTER

✓ CR RECOMMENDED

🌿 CR GREEN CHOICE

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The Better Deal

Many of the products we test at CR earn high ratings for their impressive performance—but some are also a really great value. Check out the terrific deals we found for you this month.

COMPACT ELECTRIC SUV

✓ **LEXUS RZ**
$54,000-$64,430 74

✓ **TESLA MODEL Y**
$42,990-$52,490 72

THE BETTER DEAL

THE LOWDOWN

THE FIRST ALL-ELECTRIC vehicle from Lexus has quick acceleration and a quiet cabin, and is a comfortable ride. But the RZ falters when it comes to driving range, charging speed, braking distance, and the quality of its dash display for EV info (like charge status). These are things the less pricey Tesla Model Y excels at. Our auto pros particularly like the Model Y Long Range ($47,990) because it's EPA-rated to have 110 more miles of range than the RZ, for 330 miles total.

STAINLESS STEEL FRYING PAN

✓ **ALL-CLAD D3 STAINLESS EVERYDAY 3-PLY BONDED** $100 78

✓ **CUISINART CHEF'S CLASSIC STAINLESS** $40 75

THE BETTER DEAL

THE LOWDOWN

STAINLESS STEEL PANS WORK ON every type of stovetop—electric, gas, and induction—as well as in the oven, and either one of these 10-inch pans is a solid choice. Both receive top marks for cooking evenness, both release cooked food well (no stuck-on eggs!), and their handles stay comfortably cool during cooktop use. The All-Clad scores higher than the Cuisinart overall because its handle proved sturdier during our testers' attempts to bend and break it—so it might last longer. Still, for $60 less, the Cuisinart could be a budget-friendly standby in your meal-prep toolkit.

HEADPHONES

✓ **SENNHEISER SPORT TRUE WIRELESS**
$150 73

THE BETTER DEAL

✓ **JLAB AUDIO JBUDS AIR**
$50 72

THE LOWDOWN

BOTH HEADPHONES HAVE very good sound. The pricier Sennheisers come with a second set of ear tips that enable less noise isolation (so you can hear passing traffic while wearing them outside for example), and have a longer battery life. But if you mostly listen indoors and don't mind recharging after a few hours of use, consider the JLab Audio pair—at one-third the cost.

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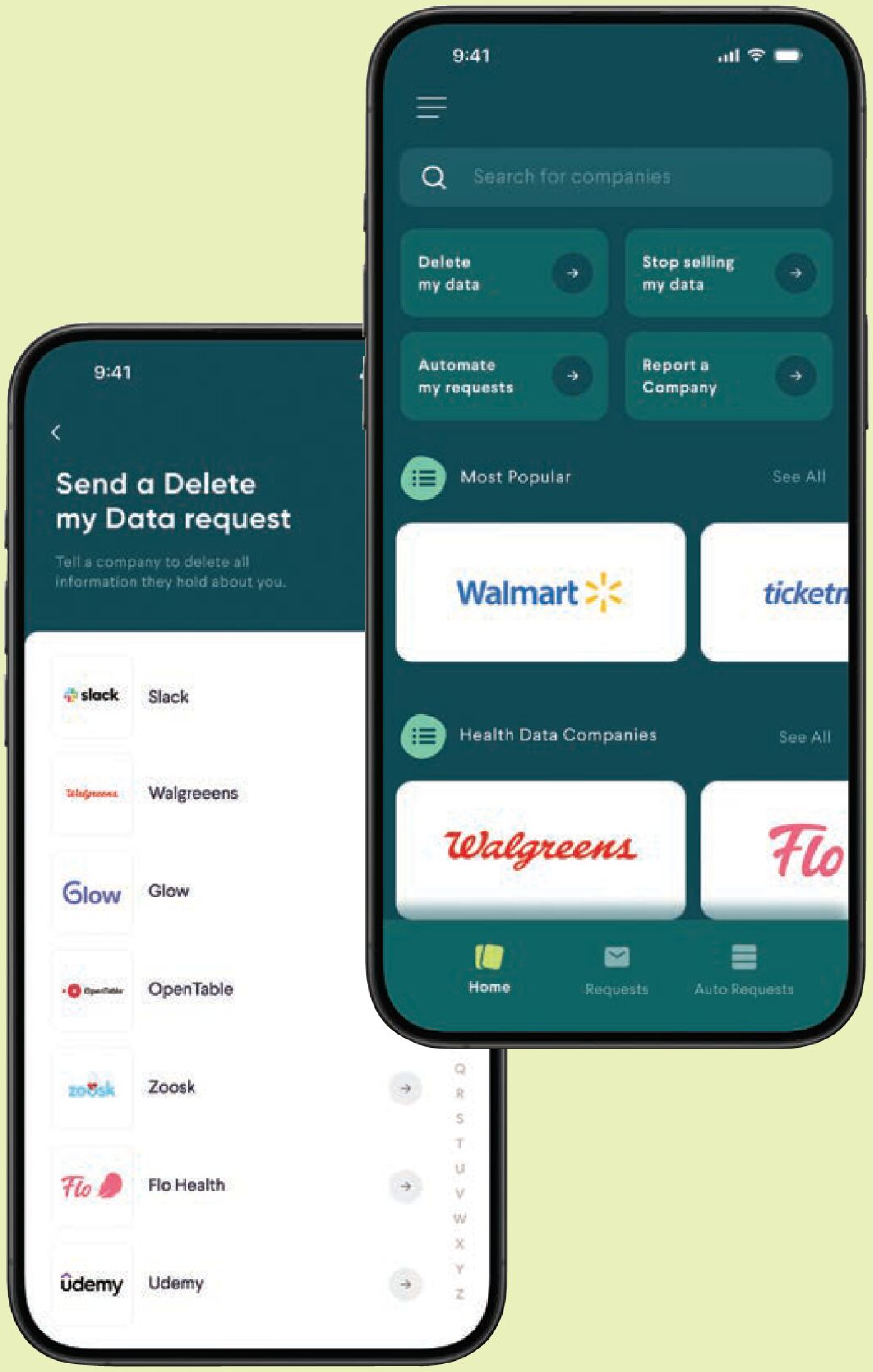

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